DOCUMENT RESUME

ED 412 288 TM 027 786

AUTHOR	Phelps, Richard P.; Cullen, Andrew; Easton, Jack C.; Best, Clayton M.; Geddes, Claire
TITLE	State Indicators in Education, 1997.
INSTITUTION	Pelavin Research Inst., Washington, DC.
SPONS AGENCY	National Center for Education Statistics (ED), Washington, DC.
REPORT NO	NCES-97-376
PUB DATE	1997-09-00
NOTE	261p.; The following pages in the original have been replaced by corrected "errata" pages: 50, 110, 170, 174, 178, 186. In addition, an errata page listing corrected "indicator" numbers pertaining to the "introduction" has been appended.
PUB TYPE	Numerical/Quantitative Data (110) -- Reports - Evaluative (142)
EDRS PRICE	MF01/PC11 Plus Postage.
DESCRIPTORS	*Academic Achievement; Access to Education; Curriculum; Economic Factors; Educational Attainment; Educational Environment; *Educational Finance; *Elementary Secondary Education; *Higher Education; *Institutional Characteristics; *Outcomes of Education; Resource Allocation; School Districts; School Size; Tables (Data)
IDENTIFIERS	*Educational Indicators

ABSTRACT

This volume is an extension of earlier efforts by the National Center for Education Statistics to present and explain some patterns and relationships in education data. The report includes 34 educational indicators, which were selected in order to take advantage of state-level data available and national data sources and to present a fairly comprehensive view of the most relevant aspects of the condition of education in the United States. The indicators are grouped into seven categories: (1) background indicators; (2) access, participation, and progress; (3) achievement, attainment, and curriculum; (4) economic and other outcomes of education; (5) size, growth, and output of educational institutions; (6) climate, classrooms, and diversity in educational institutions; and (7) human and financial resources of educational institutions. The presentation of each indicator explains what it measures, why it is important, and the key results from a comparison of states. With each indicator are tables and graphs to aid in interpretation, and data sources are listed at the bottom of each table and graph. Appendixes include supplemental and technical information on how various measures in the indicators were calculated. Data from the District of Columbia were found to be highly volatile and different in character from data from the states. District of Columbia data are included in the tables, but not in the figures, so as not to invite comparison. (Contains 34 tables and 34 figures.) (SLD)

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NCES 97-376

NATIONAL CENTER FOR EDUCATION STATISTICS

State Indicators in Education 1997

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September 1997

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Suggested Citation
U.S. Department of Education. National Center for Education Statistics. *State Indicators in Education 1997*, NCES 97–376, by Richard P. Phelps, Andrew Cullen, Jack C. Easton, and Clayton M. Best. Project Officer, Claire Geddes. Washington, DC: 1997.

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ACKNOWLEDGMENTS

State Indicators in Education/1997 was authored by a joint National Center for Education Statistics (NCES)/Pelavin Research Institute (PRI) team under the general direction of Claire Geddes of the Data Development and Longitudinal Studies Group at NCES. Overall direction and planning were provided by Thomas D. Snyder of NCES, creator of several preceding NCES state indicators reports which provided the foundation for this report.

The authors wish to thank all of those who contributed to the production of this report. Special thanks go to: Mary Frase at NCES, who reviewed several drafts of this report, catching errors and making suggestions which greatly improved its quality; Ellen Bradburn of the Education Statistics Services Institute, who provided careful reviews of the report; Diedre White and Richard Phelps of PRI, who performed the creative and technical work involved in producing the graphic displays; Rebecca Pratt at Pinkerton Computer Associates, who provided a perceptive technical editing of an early draft of the report; Beth Aronstamm Young, also at Pinkerton, who developed the indicator on public library expenditures and circulation transactions across the states (Indicator 26); Alice M. Thornton at PRI, who formatted most of the tables; Lillian King at PRI, who wrote the text for several indicators before she moved to the Austin city limits; Sheida White of the Educational Assessment Division at NCES, who was patient enough to help us acquire, understand, and interpret the NAEP reading data, in its original and revised versions; Steve Gorman, also of the Educational Assessment Division at NCES, who was equally as helpful with the NAEP mathematics data; Clyde Reese of the Educational Testing Service, who provided us the NAEP data in the form we needed it; Rosalind R. Bruno, Lloyd Hicks, and Andrea Adams of the U.S. Census Bureau, who helped us to better understand how to use Current Population Survey data; and Joel D. Sherman, International Activities project manager at PRI, who helped to administer this project in its final months.

Many thanks are due to others, whose contributions range from providing needed data to helping resolve specific issues along the way. They include: William C. Sonnenberg, Sue Ahmed, Larry Ogle, and Nabeel Alsalam of NCES; Mei Han, Maury McInerney, David Osher, and Rita Kirshstein of PRI; Karol Krotki of the Education Statistics Services Institute (ESSI); Ted Kolderie and Kristen Robbins at the Center for Policy Studies; and Dottie Hanks, William F. Lauber, and Nina H. Shokraii at the Heritage Foundation.

Several individuals served as invited peer reviewers of the draft manuscript and made many insightful and helpful comments. Their reviews were submitted within very tight time constraints and at the expense of their many other responsibilities. These generous peer reviewers were: Joseph Creech at the Southern Regional Education Board in Atlanta; Kathy Christie at the Education Commission of the States in Denver; Paul T. Brinkman, Director of Planning at the University of Utah; Frank H. Johnson of NCES; and Samuel F. Barbett, also of NCES. Lastly, thanks are due our colleagues in the education agencies and commissions in the U.S. States who provide the data that make publications such as these possible.

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INTRODUCTION AND OVERVIEW

INTRODUCTION AND OVERVIEW

In 1989, at what is now commonly called the nation's first "education summit," most of the nation's governors met with members of the White House and the U.S. Congress in Charlottesville, Virginia to begin to develop a coordinated national education strategy. Presiding over the meeting were the co-chairs of the National Governors' Association—a *national* association of *state* governors. As was customary, one co-chair was from the Republican party and the other from the Democratic party.

Deliberations at the first education summit led to the subsequent adoption of the first six National Education Goals[1] and the formation of the National Education Goals Panel. As some state governors themselves might say, it is significant that these products of the education summit bore the word "national" rather than "federal" in their titles. The meeting and its products were at once an assertion that education in the United States is a national concern, but still primarily a state and local responsibility.

A common education indicator called "Sources of funds for education" supports this contention. When revenues for public elementary and secondary education are traced to the original source of the funds, one finds that state governments contribute, on average, about the same percentage as local governments. Combined, state and local governments account for 93 percent of public education funding nationwide.

At the higher education level, state government's role is relatively even more substantial, contributing 37 percent of revenues, while the federal and local governments contribute 11 and 4 percent, respectively. (The remainder comes from tuition and fees, endowments and other private contributions, and sales and services.)

Since the Charlottesville summit, Americans have seen continued activity on education policy between the separate branches and levels of government. The Goals Panel, for example, has included members from the Congress, the White House, the U.S. Department of Education, and the ranks of governors and state legislators. The Goals Panel continues to produce a report every year which measures our country's and each state's progress toward the Goals.

Early in 1996, forty-three of the nation's governors met in a second "education summit" in Palisades, New York, along with corporate chief executives from their states, and other invited guests. The meeting was sponsored by two organizations run by U.S. state governors—the Education Commission of the States and The National Governors' Association—and the International Business Machines Corporation (IBM), which served as host. The second summit's governors agreed to develop and establish within two years internationally competitive standards, assessments to measure progress toward meeting them, and accountability systems.

By joining efforts with the Federal government in some of these activities over the past ten years, the governors have acknowledged that the Federal government has an important role to play in the collection and dissemination of some of the comparative data needed to manage the quality of American education.

In 1988, the U.S. Congress authorized the establishment of a Special Study Panel on

Education Indicators for the U.S. Department of Education's National Center for Education Statistics (NCES). This panel was chartered in July 1989 and directed to prepare a report, published in 1991, ***Education Counts: An Indicator System to Monitor the Nation's Educational Health.*** The Panel's report recommended a variety of ways in which NCES should increase its collection and presentation of indicator data. Among the many recommendations, the report urged NCES to: strengthen its national role in data collection and provide technical assistance to the states; improve its capacity to collect international data; and develop a "mixed model" of indicators — international and national indicators, state and local indicators, and a subset of indicators held in common.

Two of NCES's primary indicators projects include ***The Condition of Education*** and the National Assessment of Educational Progress (NAEP). The ***Condition*** is an annual compendium of statistical information on American education, including trends over time, international country comparisons, and some comparisons among various groups (by sex, ethnicity, socioeconomic status, and others). However, the ***Condition*** contains very few state-by-state comparisons.

The National Assessment of Educational Progress (NAEP) is a congressionally-mandated assessment of the academic achievement of American students. Begun in the late 1960s, NAEP has been reporting assessment results state-by-state, on a trial basis, only since 1990. In that year, 37 states, the District of Columbia, and two territories participated in a trial state assessment program in eighth-grade mathematics. In the 1992 fourth-grade reading and mathematics and eighth-grade mathematics trial state assessments, voluntary participation increased to 41 states, the District of Columbia, and 2 territories. The same number of jurisdictions participated in the 1994 Trial State Assessment of fourth grade reading. Forty-three states participated in the 1996 Trial State Assessment of fourth and eighth grade mathematics.

NCES's ***Digest of Education Statistics*** is, perhaps, the most comprehensive source of education statistics in the United States. Published annually or biennially since 1962, it provides national and state statistics for all levels of American public and private education. Using both government and private sources, with particular emphasis upon surveys and projects conducted by NCES, the publication reports on the number of education institutions, teachers, enrollments, and graduates; educational attainment; finances; government funding; and outcomes of education. Background information on population trends, public attitudes toward education, education characteristics of the labor force, government finances, and economic trends is also presented. Most of the data is presented in over 400 tables, but some graphics are also included. Many of the tables contain state-by-state data.

For some time, NCES has also compiled similar volumes of education statistics focused on the U.S. states. These publications, two volumes of ***Historical Trends: State Education Facts*** and one volume of ***State Projections for Public Elementary and Secondary Enrollment, Graduates, and Teachers*** were compiled every few years, largely in order to present historical trends or future projections in state education statistics.

An NCES state indicator report published a year ago, ***State Comparisons of Education Statistics: 1969–70 to 1993–94*** expanded on these earlier efforts with much new material, aggregated at the state level for the first time. But, ***State Comparisons*** also presents time series of NCES's most frequently requested state level statistics. About thirty graphics (bar charts and maps) and a considerable amount of explanatory text are also included.

This volume, ***State Indicators in Education 1997***, is a logical extension of these earlier efforts. There is not an attempt in this report, however, to include the total volume of data that the ***Digest*** or ***State Comparisons*** presents, mostly in tabular form. Rather, the emphasis in this report veers toward explaining and presenting certain patterns and relationships in the data. While there are fewer data, there is more text and there are more graphics. ***State Indicators in Education***, then, is perhaps more like a state-level version of NCES's indicator report, ***The Condition of Education***, and less like a state-level version of NCES's comprehensive data volume, the ***Digest of Education Statistics***.

The Content of *State Indicators in Education/ 1997*

State Indicators in Education/ 1997 includes 34 indicators. These indicators were selected in order to:

1) take advantage of state-level data available in several NCES data sources, as well as some other data sources, most notably the Current Population Survey of the U.S. Census Bureau; and

2) to present a fairly comprehensive view of most relevant aspects of the condition of education in the U.S. states.

The indicators are grouped into seven categories:

Ap) Background indicators;

A) Access, participation, and progress;

B) Achievement, attainment, and curriculum;

C) Economic and other outcomes of education;

D) Size, growth, and output of educational institutions;

E) Climate, classrooms, and diversity in educational institutions; and

F) Human and financial resources of educational institutions.

The data sources are described in some detail in the Sources of Data section in the back of the report. They include: the Current Population Survey and other surveys of the U.S. Census Bureau; the report, ***Private Schools in America: A State-by-State Analysis***, of the U.S. Education Department's Office of Nonpublic Education; the annual report to the U.S. Congress on the implementation of the Individuals with Disabilities Education Act (IDEA); and the Center for School Change and the Heritage Foundation.

NCES data sources include the Common Core of Data's School, Agency, Finance, and Non-fiscal surveys for public elementary and secondary education; the Integrated Postsecondary Education Data System's Fall Enrollment, Finance, Salary, Institutional Characteristics, and Completions surveys for higher education; the National Assessment of Educational Progress for reading and mathematics achievement and some classroom characteristics; a survey of public libraries in the United States; the ***Digest***; and ***State Comparisons***.

The presentation of each indicator provides an explanation of what it measures, why it is important, and key results from a comparison across states. In addition to the explanations and key results, the presentation of each indicator includes tables of relevant data and graphs or sets of graphs to aid in interpretation. The graphs are, in most cases, bar graphs, with the states listed in order of highest value to lowest. This type of graph highlights the distributional aspects of the data—where states stand in relation to one another and the magnitude of the differences between them. Where appropriate, notes on interpretation describe special circumstances affecting an indicator that warrant particular consideration in making comparisons. Data sources are listed at the bottom of each table and graph. Because some of the terms used in this report may not be familiar to all readers, a glossary is included in the back of the report. Finally, appendices include supplemental and technical information on how various measures in the indicators were calculated.

Due to the unique nature of the District of Columbia, its data were found to be highly volatile and, at times, different in character from that of the states. District of Columbia data, then, are included in the tables, but not in the figures, so as not to invite comparison. Moreover, these data are not considered in the highlights listed on the first page of each indicator.

In the remainder of the overview, we highlight some of the more important concepts and results from each of the eight sections of the report.

Section Ap: Background Indicators

Understanding the context in which an education system exists is essential to the proper interpretation of indicator data. Each indicator in this report, while measuring one particular aspect of education, is affected by a host of other factors, some not directly connected to education. The first group of indicators in this report represent some of these other factors that make up the context in which education takes place. Indicators in this group are:

Ap1) Population and area;

Ap2) Wealth and income; and

Ap3) Minority population.

A complete comparative understanding of education would require an examination of many additional factors that is far beyond the scope of this report. Some "social context" factors that have been used in other education indicator publications, for example, include the proportion of youth in the population, the rate of births to teen mothers, the percentage of children in poverty, and the youth violent death rate.

Nonetheless, the indicators presented in this section provide important insight to the environments in which education programs are set and should be considered when evaluating data found elsewhere in this report.

How closely do the states resemble each other demographically?

There is a wide variation in both state size and population. Comparisons between states may increase in validity as their size and demographic composition become increasingly similar.

- Eight states had areas of 100,000 square miles or more, while six states had areas of less than 10,000 square miles. Alaska, the state with the largest area, encompassed more than 650,000 square miles. The state with the smallest area was Rhode Island, which, at 1,545 square miles, was almost 1/425th the size of Alaska. *(Indicator Ap1)*

- Some of the states with relatively large areas had relatively small populations. For example, Alaska, Montana, and Wyoming were among the top 10 states with respect to area, but were among the bottom 10 both in terms of population and population density. Thirty-two states were between 30 and 90 thousand square miles in size; about half the states held between 2.5 and 9 million persons. *(Indicator Ap1)*

- There was considerable variation in median household income from state to state in 1993. At the high end, three states had median household incomes of over

$40,000 (Alaska, Hawaii, and New Jersey). At the low end, Arkansas, West Virginia, and Mississippi all had median household incomes of less than $24,000. Median household income was between $25 and $35 thousand in over 30 states. *(Indicator Ap2)*

- One state had non-white populations greater than 50 percent. Thirteen states had non-white populations of over 20 percent. Seven states had non-white populations of 5 percent or less. *(Indicator Ap3)*

Section A: Access, Participation, and Progress

Participation in education is influenced not only by demand—the number of persons who are willing and able to attend school—but also by the supply—the number of places available. Regarding supply, while all states provide places in elementary and secondary schools virtually free to all children at the ages of compulsory attendance, places in preprimary programs and higher education are more available in some states than in others. High participation can reflect a large public or private investment in education, a high valuation of education by society, or an economy dependent on a highly trained workforce.

Indicators in this group are:

H5) School choice;

A10A) Entry ratio to higher education;

A10B) Migration of new high school graduates entering higher education; and

A4) Average tuition at higher education institutions.

Two different measures of participation (which includes entry, participation, or graduation) are used in this report: *rates* and *ratios*. Enrollment *rates* represent the percentage of students in a certain age or geographic group enrolled in a particular level of education. Enrollment *ratios* reflect the number of students of any age or geographic area enrolled in a particular level of education per 100 persons in a reference group, the ages typical of those enrolled at that level or the number of persons in a particular geographic area.

Although participation rates are often preferred to participation ratios, as they are not inflated by participants either outside the typical age or geographic group or by periods of participation longer than the typical duration of the activity, the requisite data needed to calculate participation rates — participation by age or specified area — are often unavailable.

Indicators A10A and A10B in this section are ratio measures. Feasibly, a person could be counted in the numerator of a ratio (as an enrolled student, new entrant, or migrant), but not in the denominator (if out of the age range, or out of the state).

What public assistance do states provide to students who wish to attend private school?

As an integral part of states' education systems, private schools can help ease the pressure placed on fiscally-strained public institutions. A key component of many school reform programs, moreover, is some form of increased public support for private school students, so that more students may have more options in their academic careers. School choice programs can take three general forms: aid or tax relief for parents who enroll their children in private schools; charter schools; and open enrollment within the public school system.

- In 1995–1996, only three states—California, Massachusetts, and

Minnesota—had all three general types of school choice programs—some form of aid or relief for private school parents (i.e. vouchers, tax credits, free school transportation), charter schools, and open enrollment—in place. *(Indicator H5)*

Another, more subtle form of public subsidization for private schools is the provision of public transportation for private school students. Some of these subsidies have existed for many years. While not often considered as part of current school choice legislation proposals, any public action that lowers the effective price of private school education affects parents' public/private school choice.

- With the exception of Louisiana and West Virginia, where public transportation was made available to private-school students, none of the Southern or Southwestern states provided any form of aid or relief to parents who sent their children to private schools. The majority of states in the Northeast, Midwest, and on the West Coast provided public transportation for private-school students. *(Indicator H5)*

Which states offered the most higher education opportunities? Where did students move for higher education opportunities?

Entry into higher education in a state can be counted in two ways: in the state of the higher education institution (which portrays a state's ability to attract students) or from the state of the student's original residence (which portrays a state's ability to produce students). Migratory activity represents the difference between these two measures, and offers a more complete picture of the market for higher education in each state than would simple enrollment alone.

- In 1992, the number of new high school graduates entering public and private higher education institutions per 100 persons 18 years old showed considerable variation across states. When counted in the state of the institution, Rhode Island had the highest ratio (90.0), and Kentucky the lowest (10.6). The range between the highest and lowest entry ratios was narrower when counted in the state of students' original residence. Kentucky still had the lowest (11.5), and North Dakota the highest (60.8). *(Indicator A10a)*
- Total migratory activity (the sum of students leaving and students entering a state to pursue higher education) exceeded 75 migrants per 100 new high school graduates enrolled in higher education institutions in 9 states: Connecticut, Vermont, Alaska, New Hampshire, New Jersey, Rhode Island, Maine, Nevada, and Delaware. *(Indicator A10b)*

How much did tuition vary between different types of higher education institution?

As one of the major expenses incurred in pursuing higher education, tuition plays a key role in determining the accessibility of higher education to potential students. Even when such a cost does not prevent a student from attending a postsecondary institution, it might affect the student's choice of institution.

- In no state was the average tuition at private 4-year institutions lower than the average tuition at public 4-year institutions. *(Indicator A4)*
- Twelve states had average tuition at 4-year private institutions above $12,000, whereas Utah was the only state where the average tuition at private institutions was below $4,000. In most states, average tuition at 4-year private institutions was between $6,000 and $11,000. *(Indicator A4)*
- In 1993, the average in-state tuition at 2-year public institutions did not exceed

$4,000 for any state. In only 3 states did the average public institution tuition exceed $3,000. Fourteen states had an average public institution tuition below $1,000. *(Indicator A4)*

Section B: Achievement, Attainment, and Curriculum

Many possible indicators could be identified as measures of an education system's quality or effectiveness. The indicators in this section deal with opportunities for advanced academic work available to secondary school students, students' academic achievement in reading and mathematics, and the levels of educational attainment in the adult population. Specifically, the indicators in this section are:

B11) Reading achievement in 4th grade;

B12) Mathematics achievement in 8th grade;

B13) Mathematics achievement in 4th grade and between 4th and 8th grade;

B3) Advanced Placement programs and examinations; and

B1) Educational attainment of the population.

What is the level of students' mathematics and reading proficiencies? How are they improving over time or over grade levels? How do they compare across the states?

With the inclusion of 1996, 1994, 1992, and 1990 NAEP data for mathematics or reading proficiency, as well as data for both the 4th and 8th grades, this report calculates the changes in academic performance over two-, four-, and six-year periods and between two grade levels. The progress in students' mathematics proficiency is generally encouraging.

- Between 1992 and 1996, the average mathematics proficiency score for eighth-graders increased in 13 states when measured by a multiple comparison procedure involving all 35 states that participated in both the 1992 and 1996 NAEP assessments. The average mathematics proficiency score for eighth-graders increased in 18 states and decreased in none when measured by a single comparison procedure. *(Indicator B12)*

- Between 1990 and 1996, the average mathematics proficiency score for eighth graders increased in 26 states when measured by a multiple comparison procedure involving all 30 states that participated in both the 1990 and 1996 NAEP assessments. The average mathematics proficiency score for eighth graders increased in 27 states and decreased in none when measured by a single comparison procedure. *(Indicator B12)*

- Between 1992 and 1996, the average mathematics proficiency score for fourth graders increased in 14 states and decreased in 2 when measured by a multiple comparison procedure involving all 37 states that participated in both the 1992 and 1996 NAEP assessments. *(Indicator B13)*

- Eighth-grade students in all participating states averaged at least 40 scale points higher in mathematics proficiency than their fourth-grade counterparts. The difference in performance between grades was similar across states. Fourteen scale points separated the state with the smallest difference from that with the largest, which is much smaller than the difference in average proficiency between the highest- and lowest-scoring states in either of the mathematics assessments, grades 4 or 8, in 1996. *(Indicator B13)*

Students' progress in reading proficiency, however, is less encouraging:

- Between 1992 and 1994, the average reading proficiency score for public school fourth-graders decreased in 4 states when measured by a multiple comparison procedure involving all states participating in both years' NAEP assessments. The average reading proficiency scores decreased in 4 more states (and increased in none) when measured by a single comparison procedure. *(Indicator B11)*

What opportunities exist for high school students to challenge themselves with work at an advanced academic level?

Opportunities for advanced study in high school give students academic experience helpful to their postsecondary education. One of the most respected forms of advanced study is the Advanced Placement program, which gives college credit to those who have demonstrated proficiency in one or more of a wide variety of subjects.

- In 1995 in over half of the states, 50 percent or more of the schools offered AP programs. In three states – New Jersey, Massachusetts, and Connecticut –more than 75 percent of schools offered AP programs. In only six states did fewer than 25 percent of schools offer AP programs. *(Indicator B3)*

Section C: Economic and Other Outcomes of Education

Like some of the indicators in the preceding section, the indicators in this section measure educational outcomes. However, the indicators included here focus on longer-term outcomes, such as employment and labor force participation rates, and earnings among graduates of various levels of schooling, as well as graduation from higher education institutions. These indicators are:

C1) Higher education completion;

C4) Labor force participation;

C2) Employment and education; and

C3) Education and earnings.

How do completion ratios vary for different levels of educational attainment?

Higher education completion ratios were measured by the number of associate's or bachelor's degrees received by students per 100 persons at ages typical for graduation at each level. These ratios give an indication of the number of skilled and highly educated workers entering the labor force each year. Differences between the completion ratios for bachelor's and associate's degrees may reflect, to some degree, differences in the specific types of training required for a state's labor market.

- Bachelor's degree completion ratios for public and private institutions were higher than associate's degree completion ratios in all of the states. Only Nevada and Alaska had bachelor's degree completion ratios below 20 percent, while a majority of the states had ratios above 30 percent. *(Indicator C1)*

How does higher educational attainment affect employment, labor force participation, and earnings across the states?

One of the primary reasons many students pursue higher levels of educational attainment is the expectation that it will result in higher employability and a higher wage. While this assumption is generally correct, the effect varies from state to state, and for different educational attainment levels. For example:

- Those with high school diplomas (but not 4-year college degrees) had a higher employment rate than did those without a diploma nationally and in 11 states when measured by a multiple comparison procedure involving all states. Twenty-three states had a higher rate for high school graduates when measured by a single comparison procedure. *(Indicator C2).*

- Whereas only one state had an employment rate over 95 percent for those with less than a high school diploma, no state had an employment rate under 95 percent for college graduates. *(Indicator C2).*

- Adults with 4-year college degrees in 1993 were more likely to earn more than $40,000 annually than were those with high school diplomas (but not 4-year college degrees) nationally and in 45 states when measured by a multiple comparison procedure involving all states. 4-year college graduates were more likely to earn at the higher level in 48 states when measured by a single comparison procedure. *(Indicator C3)*

- In 1994, the labor force participation rate increased with higher levels of educational attainment in every state. The increase was larger with the attainment of a high school degree than with the attainment of a college degree. *(Indicator C4)*

Section D: Size, Growth, and Output of Educational Institutions

The size of an educational institution can directly affect the character of the education received there. Larger institutions may be able to offer a greater variety of courses, while smaller institutions may be better able to foster feelings of community. The quantity of institutions in a state may reflect that state's approach to the educational process, or its reaction to its own geographic realities, such as a highly concentrated or dispersed population. The indicators in this section are:

D2) Elementary and secondary school size;

D3) Number and average size of higher education institutions;

A2) Enrollment in 2-year higher education institutions; and

A3) Enrollment in 4-year higher education institutions.

What differences in school size exist among the states?

School size (as measured by enrollment) may be affected by deliberate policy choices, such as the compartmentalization of educational programs (e.g., the separation of middle school students or vocational students in separate schools). However, school size can also be influenced by population density. For example:

- The average size of public elementary and secondary schools varied considerably across the states. Three states— Florida, Hawaii, and Georgia— had averages of over 700 students per school. The average for Montana (181), the state with the smallest average school size, was less than one-fourth that of Florida (797) or Hawaii (749). *(Indicator D2)*

How do higher education institutions compare in terms of size?

Due to different goals, populations, and curricula, 2-year and 4-year institutions tend to differ in their enrollment levels.

- Four-year higher education institutions were, for the most part, larger than their 2-year counterparts. The average public 4-

year institution size was larger than the average public 2-year institution size in all states but Rhode Island. *(Indicator D3)*

High levels of participation in higher education can reflect a large public or private investment in education institutions, a high valuation of higher education by society, and an economy dependent on a highly trained workforce.

As explained in Section A above, this report uses two general types of participation measures: *rates* and *ratios*. Enrollment *rates*, in particular, represent the percentage of students in a certain age group enrolled in a particular level of education. Enrollment *ratios* reflect the number of students of any age enrolled in a particular level of education per 100 persons in a reference age group, the ages typical of those enrolled at that level.

Usually, participation rates are preferred to participation ratios, as they are not inflated by participants from outside the age group. Indicators A2 and A3 in this section use enrollment rates. Any person counted in the numerator of an enrollment rate is also a member of the base population age group used as the denominator.

How do enrollment rates change for older age cohorts?

Age cohort enrollment rates are affected by differences in lifestyles and opportunity costs and societal beliefs regarding the benefits of higher education for non-traditional students. Older age cohorts tend to participate in higher education less and differently than do their younger counterparts. For example:

- Enrollment rates for 2-year institutions shrink, and part-time enrollment assumes a larger share, for older age cohorts. Whereas eight states had enrollment rates (both full-time and part-time) at or below 5 percent for those aged 18 to 21, no state had a combined (full-time and part-time) enrollment rate of over 5 percent for those aged 30 to 49, the oldest age group represented in this indicator. *(Indicator A2)*
- As was found with 2-year institutions, enrollment rates in 4-year institutions shrink in older age cohorts. No state had combined (full-time and part-time) enrollment rates under 10 percent for those aged 18 to 21, while just under half of the states had rates above 5 percent for those aged 22 to 29, and only Alaska had a combined enrollment rate of over 5 percent for those aged 30 to 49, the oldest age group represented in the indicator. *(Indicator A3)*

Not all students enrolled in 2-year higher education institutions are between 18 and 49 years old, however. In 1993, 2.4 percent of enrolled students were under 18 years old, 4.4 percent were 50 years of age or older, and the ages of 1.3 percent were unknown.

Likewise, not all students enrolled in 4-year higher education institutions are between 18 and 49 years old. In 1993, 1.3 percent of enrolled students were under 18 years old, 2.0 percent were 50 years of age or older, and the ages of 2.1 percent were unknown.

How is institution type associated with the character of enrollment?

- In the fall of 1993, the enrollment rate in public 2-year institutions in the majority of states was relatively higher for part-time than for full-time students. This was true for all age groups except those aged 18 to 21, a typical age group for full-time students. Moreover, this trend did not hold true for the small proportion of *private* 2-year institutions, in which full-time students predominated. *(Indicator A2)*

- In the fall of 1993, all states except Alaska had relatively higher full-time than part-time enrollment rates in public 4-year institutions. This was true for all age groups except those aged 30 to 49, in which part-time enrollment was predominant. This is nearly an exact reversal of the trend for 2-year institutions discussed above. *(Indicator A3)*

Section E: Climate, Classrooms, and Diversity in Educational Institutions

The indicators in this section portray aspects of the school and community environment that affect the *character* of the school population and instruction. They are:

E1) Ethnic composition of the student population in public elementary and secondary schools;

E2) Impact of federal anti-poverty programs in the schools;

E3) Special education programs;

B6) Student use of technology;

B4) Instructional strategies in mathematics courses; and

F17) Availability and use of public library resources.

Recent public opinion polls show that the general public considers violence in the public schools to be the leading problem in U.S. education today. Though there are no indicators related to school violence in this report, another NCES report, *SASS by State,* contains indicators of teacher perceptions of the magnitude of two school problems—physical conflicts and weapons possession—as derived from the teacher questionnaire in the 1993–94 Schools and Staffing Survey. These indicators can be found in Chapter 1 of that report.

Which states had the largest populations of minority students?

Minority students lend cultural diversity to a state's schools, but they can also pose unique challenges to and demands on a state's resources. Examining the differences in the minority population across the states allows for an increased understanding of the environments in which each state's school system operates.

- In 1992–93, the percentage of minority students in public elementary and secondary school exceeded 50 percent in five states— Mississippi, Texas, California, New Mexico, and Hawaii—with the percentage of non-white students in Hawaii exceeding 75 percent. At the other extreme, four states had non-white student populations of less than 5 percent, with the percentages in Maine (2.4 percent) and Vermont (2.5 percent) being less than one-thirtieth of Hawaii's. In the majority of states, minority enrollment varied between 10 and 40 percent *(Indicator E1)*

Though the federal government accounts for only about 7 percent of the public funding of elementary and secondary education, it has a great impact in two anti-poverty programs. The first program, often called the Chapter 1, or Compensatory Education, program, consists of direct grants intended to help schools with high concentrations of students from disadvantaged backgrounds *compensate* for those disadvantages. The second program is actually a collection of separate programs, administered by the U.S. Department of Agriculture. They provide schools with food at low or no cost so that they may, in turn, provide it to poor students at low or no cost, most commonly in school lunches or breakfasts.

As the incidence of poverty varies across the states, one might expect the incidence of these programs to vary with it. Does it?

It seems to. States with higher concentrations of poverty seem to get more federal anti-poverty aid.

- In 1993, one state—Mississippi—received over $200 per enrolled student in Chapter 1 funding. Eleven states received less than $100 per enrolled student. Thus, the other 38 states received between $100 and $200 per enrolled student. *(Indicator E2)*
- Funding for school nutrition programs varied widely among the states, with 4 states receiving more than $200 per student and 2 states receiving less than $100 per student. *(Indicator E2)*

The Federal Individuals with Disabilities Education Act (IDEA) mandates that all children have available to them a free and appropriate education designed to meet their unique needs. Providing an appropriate education to those with special needs has required an increasingly large proportion of education resources, however, as recent years have seen an expansion in the number of students served by these programs.

This expansion is a result of two developments in special education: a greater willingness on the part of educators and policymakers to devote the requisite resources to the education of those with special needs and an improvement in our ability to identify those with special needs and prescribe a suitable program for them. Though the general requirement that special education students be provided "a free and appropriate education designed to meet their unique needs" comes from an act of the U.S. Congress, it is largely up to the states and local districts to define eligibility criteria, program availability, and funding levels. These state and local district decisions vary across the states, and even from year to year within states.

- In 1993, the percentage of public school students following individualized special education plans ranged from 9 to 16 percent in all but 5 of the states, with the percentage in a majority of states between 10 and 13 percent. *(Indicator E3)*
- Over a 16-year period, from 1976–77 to 1992–93, the number of persons aged 3 to 21 served under Part B of the Individuals with Disabilities Education Act increased by over 40 percent in a majority of states. The number more than doubled in 6 states. *(Indicator E3)*

Which classroom strategies are used in mathematics instruction?

Instructional strategies can influence the quality and effectiveness of mathematics curricula. An examination of the predominant strategies used can provide insight into the underlying assumptions of a school's teaching philosophy. For example:

- In 1992, a majority of public school eighth graders were assigned to mathematics classes based on their perceived ability, according to teachers in classrooms participating in the 1992 NAEP assessment. In only six states was the use of ability grouping reported for less than half of the sampled students. *(Indicator B4)*
- In most states included in this study, a majority of students reported taking mathematics tests at least once a week. In only five states did fewer than 50 percent of students report taking mathematics tests that frequently. *(Indicator B4)*

To what extent is technology applied to class and home work?

The prevalence of technological aids, such as computers and calculators, in students' work can vary from school to school and from home to home, due to fundamental differences in beliefs of their usefulness or, to some, the prohibitive expense of such equipment. Public expenditures for technology can be a significant factor in determining the amount and type of technology used to aid instruction.

- Across the states included in this study, there was considerable variation in student-reported use of calculators in mathematics classes. The range extended from 47 percent in the state with the lowest level of calculator use in the schools, Mississippi, to 88 percent in Maine, the state with the highest level. *(Indicator B6)*
- There were also noticeable state-to-state differences in the percentage of students who reported using computers for school work or homework. Maine was the state with the highest percentage (61 percent) of students who reported using computers. Tennessee was the state with the smallest percentage (26 percent). *(Indicator B6)*

How available are public libraries, as supplements to the role of schools in the education of the general population?

Use and support of the public library system can be an important part of a state's educational system. Public libraries can support life-long learning; and a high level of demand for their services suggests an active environment of continuous learning at all ages. As with most indicators, considerable variation across the states can be found. For example:

- In 1992, public library expenditures per capita varied considerably across states. Six states had per capita expenditures above $25. Six other states had per capita expenditures below $10. New York, the state with the highest expenditures per capita, spent just over four times as much as Arkansas, the state with the lowest. *(Indicator F17)*
- Seven states had 9 or more circulation transactions per capita, with 2 states — Ohio and Washington —having 10 or more transactions per capita. Three states in the South — Mississippi, Alabama, and South Carolina — were the only states to have fewer than 4 transactions per capita. *(Indicator F17)*

Section F: Human and Financial Resources of Education Institutions

The level of public investment in education reflects the importance each state places in education. Through most of this section, the focus is on expenditures from public sources rather than on total investment in education, which would also include money from private sources. In some cases, expenditure from private sources amounts to a substantial portion of total educational expenditure. This section includes the following indicators:

F1) Staffing patterns in public elementary and secondary schools;

F4A) Staff employed in 2-year higher education;

F4B) Staff employed in 4-year higher education;

F10) Higher education faculty salaries;

F11C) Current expenditure in public elementary and secondary schools;

F11A) Higher education expenditures;

F11B) Components of expenditures in public higher education; and

F13) Sources of funds for public elementary and secondary schools.

How do staffing patterns in educational institutions differ across states?

Teachers remain the most important resource in any education system. Their work can be supplemented, however, by the efforts of other staff, such as administrators, counselors, bus drivers, and maintenance employees.

- In Fall 1993, only New Jersey and Vermont had student-to-teacher ratios of less than 14, while three states (California, Utah, and Washington) had ratios of greater than 20. Similarly, only Vermont had a student-to-staff ratio below 7, and Utah and California had the only student-to-staff ratios greater than 12. *(Indicator F1)*

- Teachers comprised a majority of education staff in public elementary and secondary schools in all but seven states. Most states, however, displayed roughly equal numbers of teaching and non-teaching staff; in the country as a whole, 52 percent of school staff were teachers. In only three states (Idaho, Minnesota, and Rhode Island) did teachers exceed 60 percent of all staff. *(Indicator F1)*

- Student-to-faculty ratios in public 2-year higher education institutions were much larger than student-to-staff ratios for each state. Whereas no state had more than 15 students per staff member, all but nine states had more than 15 students per faculty member. *(Indicator F4a)*

- Ratios of students to staff for 4-year higher education institutions were considerably lower than those for 2-year institutions. No state had a student-to-staff ratio in their public 4-year institutions greater than 10, whereas no state had a student-to-staff ratio in their public 2-year institutions less than 5. One state had a student-to-staff ratio in its private 4-year institutions greater than ten, whereas 11 states had student-to-staff ratios greater than 10 in their private 2-year institutions. *(Indicator F4b)*

Average student-to-teacher ratio usually differs from average class size. The student-to-teacher ratio counts all employed teachers and enrolled students without consideration for how they spend their time in school. Class size counts the number of students a teacher faces in a classroom without consideration for the time teachers spend in planning, administration, meetings, or counseling or the time students spend at lunch, in computer labs, in counseling, or other non-classroom activities. Average class sizes tend to exceed average student-to-teacher ratios in similar grade levels and subject areas, implying that the average amount of time at school but not in class is larger for teachers than for students. Another NCES publication, *SASS by State*, contains several indicators of class size, in Chapter 4.

How well are higher education faculty paid, and how do their salaries vary across states and types of institutions?

As is also true with most other professions, the level of salaries of faculty in higher education institutions influences the character and quality of instruction. Differences in average salaries across institution types may reflect different institutional purposes and goals. For example:

- In 1993, average salaries for full-time faculty at 2-year public higher education institutions ranged from $24,780 in South Dakota to $51,052 in Alaska. Only two states had average salaries above $50,000, and South Dakota was the only state with an average salary below $25,000. *(Indicator F10)*

- Faculty at 4-year public institutions received higher salaries than their counterparts at 2-year public institutions. Faculty at 4-year public institutions in only

8 states had average salaries below $40,000, while 34 states had 2-year public institution average salaries below that level. Alaska was the only state in which salaries at 2-year institutions exceeded salaries at both 4-year public and 4-year private institutions. *(Indicator F10)*

How do the levels of expenditures on education vary across states?

Measures of educational expenditures are one of the most direct means of gauging the importance each state places on education, and on which particular aspects of the educational enterprise they place priority. However, it is important to recognize that a state's true investment in *higher* education is very dependent on the tuition and fees charged by its public schools. For example, a state with a high level of expenditure but a correspondingly high public college tuition rate may be making no greater investment in higher education than a state with a lower rate of expenditure, but very low tuition. In order to gain a clearer understanding of each state's true investment in higher education, information from this section should be compared with that from Indicator A4: Average higher education tuition.

- All of the states except Alaska had instructional expenditures as a percentage of current expenditure in public elementary and secondary schools within the range of 57 to 67 percent. *(Indicator F11c)*
- In the 1992–93 school year, current expenditures per student in public elementary and secondary schools ranged from less than $3,000 in Utah to over $8,500 in New Jersey, a nearly threefold difference. However, all but seven states had per-student current expenditures within the range of $3,500 to $6,500. *(Indicator F11C)*
- Expenditures for public 4-year higher education institutions ranged between $10,000 and $20,000 per student for all but three states: South Dakota ($9,228), Washington ($21,032), and Hawaii ($25,348). Variation for private institutions was much greater, from under $5,000 (Arizona) to over $50,000 (Maryland). *(Indicator F11a)*
- Instructional expenditures as a proportion of educational and general expenditures were higher for 2-year than for 4-year public institutions in all but five states: Idaho, Indiana, Ohio, Vermont, and West Virginia. *(Indicator F11b)*

How do the proportions of education revenues originating from different sources of funds vary across the states?

Funds for education emanate from different sources, both public and private and, when public, from different levels of government, federal, state, and local. While most education spending takes place at the school district level, much of the money originates at the federal or state level. The proportion of education revenues originating from each of the various sources can vary quite dramatically by state. For example:

- In 1992–93, 10 states relied on the federal government to provide more than 10 percent of the public revenue for public elementary and secondary schools. Mississippi was the only state that relied on the federal government for more than 15 percent of the public revenue for public schools. *(Indicator F13)*
- State governments in 25 states provided a majority of the public revenue for public elementary and secondary schools, while 21 states relied on local and intermediate governments for a majority of their public revenue. *(Indicator F13)*

Other related NCES projects

State Indicators in Education/1997 and its antecedent publications represent only some of NCES's overall effort in developing and publishing state-level education indicators.

SASS by State is a volume of state-level education indicators devoted exclusively to summarizing NCES's *Schools and Staffing Survey*, probably the best single source of statistical information on what happens "inside the classroom" and "in between school walls."

State Profiles of Public Elementary and Secondary Education, 1991–1992 is a volume of state-level education indicators devoted exclusively to summarizing NCES's *Common Core of Data*, the heart of NCES's data collection system. The Common Core of Data is generated by a universe survey of U.S. public school districts. State education agencies collect data on student enrollments, staffing counts, numbers of schools, federal education program participation, and other basic information from their school districts and then send it on to NCES.

State Higher Education Profiles is a large and comprehensive volume of statistical information on higher education, organized by state and last published in 1991. Each state's higher education data are accorded a several-page-long profile. In another part of the publication, all the states are ranked in hundreds of indicator tables according to hundreds of different measures of higher education participation, completion, finance, institutional size and character, and so on.

Overview and Inventory of State Requirements for School Coursework and Attendance provides a summary of state standards and regulations for educational institutions, students, and teachers.

As part of its growing international effort in 1993 NCES published the first edition of ***Education in States and Nations*** (ESN1), incorporating U.S. state-level data from the late 1980s and matching it to data from a country-level education indicator compilation of the Organization for Education Co-operation and Development (OECD). ESN1 allowed not only state to state and country to country comparisons, but country to state comparisons, as well. For perhaps the first time, states could compare their support for education, the participation of their youth in the education system, or their educational outcomes with those of a number of industrialized countries, including some quite similar in size, wealth, or social conditions.

Why compare states to nations? In many countries, public responsibility for education is vested in the national government, in an education ministry.[2] In the United States, however, public responsibility for education rests primarily at the state level.[3] Thus, in many cases, the most valid American counterparts to other countries' national ministries of education are our state education departments.

A second edition of ***Education in States and Nations*** (ESN2), published in 1996, is much larger than its predecessor. This reflects both a greater availability of suitable international indicators in the early 1990s and a greater effort to find relevant indicators, both domestic and international. ESN2 improved the quality of indicators with better data (where possible) and expanded the domain of indicators to encompass more topics pertinent to education policy.

NOTES:

1. The six original National Education Goals (with their current numbers) were: 1) All children will start school ready to learn. 2) The high school graduation rate will increase to at least 90 percent. 3) Students will

demonstrate subject area competency at grades 4,8, and 12 and be prepared for good citizenship, further learning, and productive employment. 5) U.S. students will be first in the world in science and mathematics achievement by the year 2000. 6) Every adult American will possess the knowledge and skills necessary to compete in a global economy. 7) Every school will be free of drugs and violence and offer a safe, disciplined environment conducive to learning.

In 1994, Congress added two additional goals: (4) Teachers will have access to programs to improve their skills. 8) Schools will promote parental involvement.

2. Several other OECD countries have federal systems of government like the United States', in which a major responsibility for education rests with regional (provincial or state) governments. These countries are Australia, Belgium, Canada, Germany, Switzerland, and the United Kingdom.

3. It should be recognized that, in this publication, the meaning of the word "state" is the U.S. version, a sub-national, regional jurisdiction.

BACKGROUND

Indicator 1: Population and area

A state's population and area influence both the organizational structure and the infrastructure of its education system. States with large populations tend to have large numbers of school-age children and face a greater demand for educational services. States with large areas face greater challenges in providing educational services since they must spread them over a wider geographical domain. High population densities may make it more efficient for a state to support a wider range of specialized education and training opportunities as well as support large average school sizes. Each of these factors may influence the degree to which an educational system is centralized and its ability to provide a wide range of services, but may only become critical in cases where population, area, or density is either extremely large or extremely small. Other factors such as culture, history, and economics also have a strong influence in determining the structure of an education system.

- **California was the most populous state in 1995, with over 10 million more persons than either of the next two most populous states, Texas and New York. Other states with populations greater than 10 million included Texas, New York, Florida, Pennsylvania, Illinois, and Ohio. Seven states had populations of less than 1 million.**

- **In 1995, the range of population densities across the states was wide. At the low end, Alaska, Wyoming, and Montana each had population densities lower than seven persons per square mile. At the high end, New Jersey and Rhode Island had population densities higher that 600 persons per square mile.**

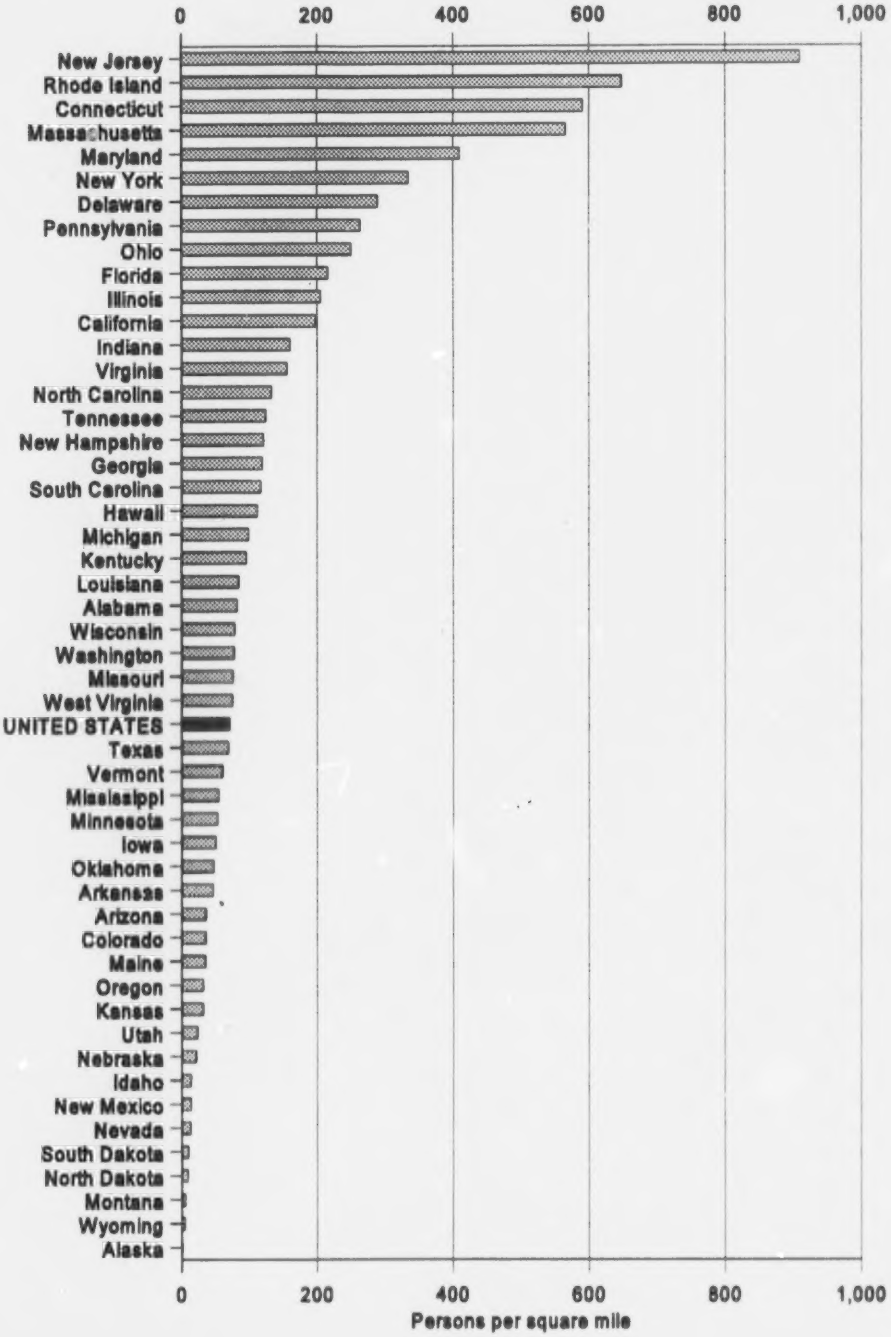
- **Eight states had areas of 100,000 square miles or more, while six states had areas of less than 10,000 square miles. Alaska, the state with the largest area, encompassed more than 650,000 square miles. The state with the smallest area was Rhode Island, which, at 1,545 square miles, was almost 425 times smaller than Alaska.**

- **Some of the states with relatively large areas had relatively small populations. For example, Alaska, Montana, and Wyoming were among the top 10 states with respect to area, but were among the bottom 10 both in terms of population and population density.**

Note on interpretation:

The proportion of the population that is of school age can vary from state to state. Estimates of the size of the school-age resident population in each state can be found in the *Digest of Education Statistics 1996*, Table 16.

Figure 1a: Population density, by state: July 1995



SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports: Population Projections for States*, P25-1111, Table 4; and *Statistical Abstract of the United States*, 1992, Table 340.

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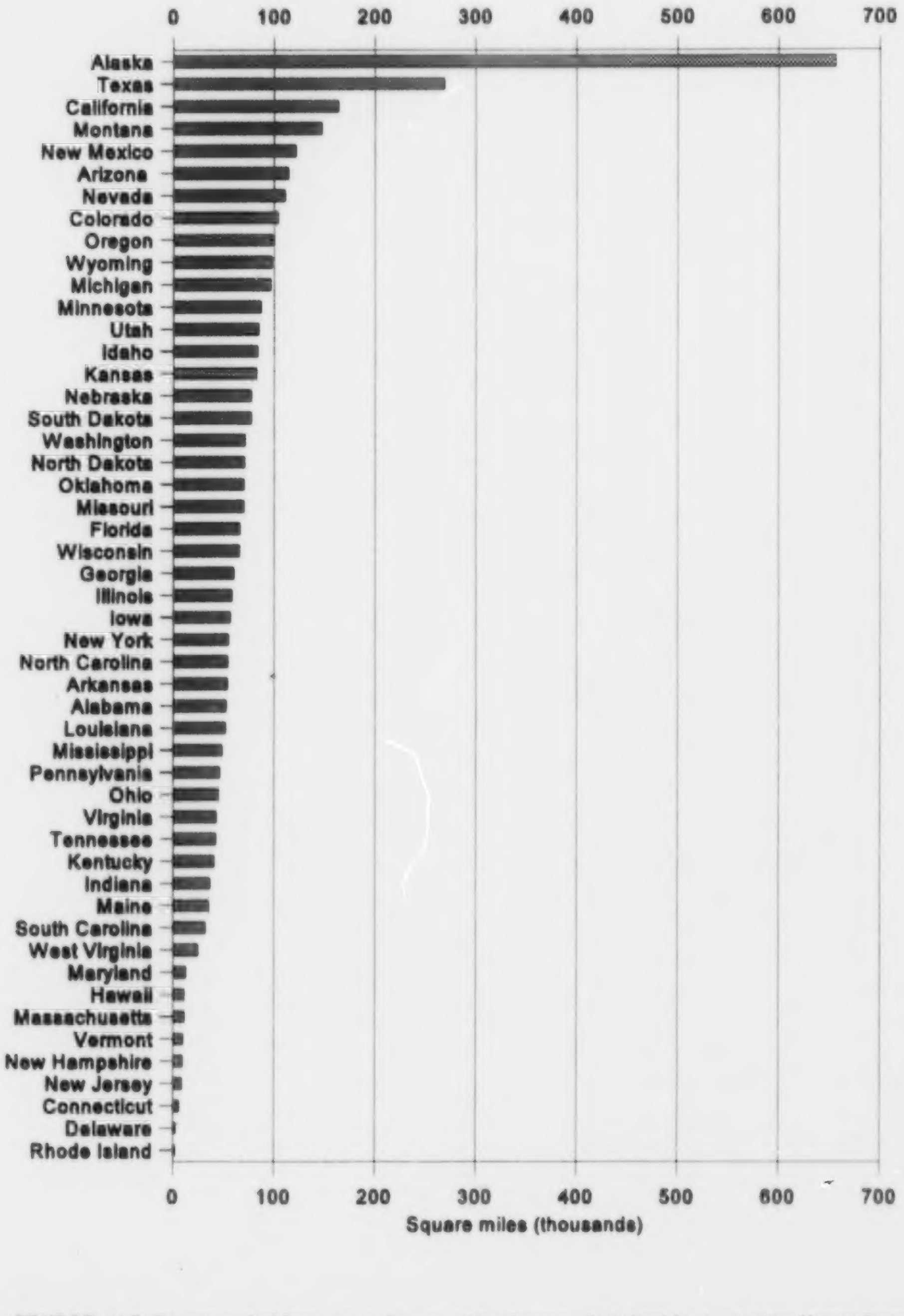
Figure 1b: Area, by state



SOURCE: U.S. Department of Commerce, Bureau of the Census, *Statistical Abstract of the United States, 1992*, Table 340.

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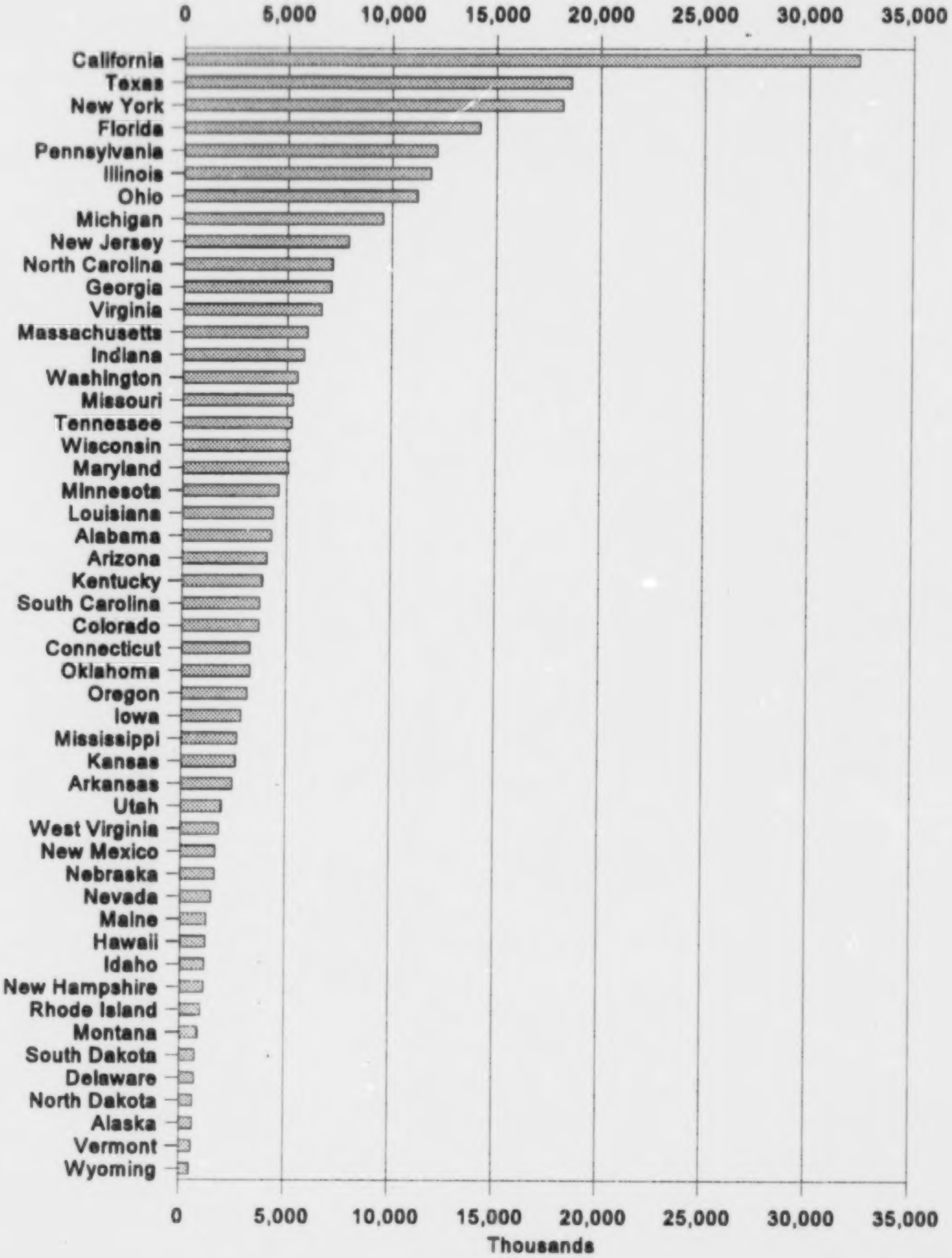
Figure 1c: Population, by state: July 1995



SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports: Population Projections for States*, P25-1111, Table 4.

Table 1: Population, area, and population density, by state: 1995

State	Total population (thousands)	Area (square miles)	Population density (persons per square mile)
UNITED STATES	**263,434**	**3,539,227**	**71**
Alabama	4,274	52,423	82
Alaska	634	656,424	1
Arizona	4,072	114,006	36
Arkansas	2,468	53,182	46
California	32,398	163,707	198
Colorado	3,710	104,100	36
Connecticut	3,274	5,544	591
Delaware	718	2,489	288
District of Columbia	559	68	8,221
Florida	14,210	65,758	216
Georgia	7,102	59,441	119
Hawaii	1,221	10,932	112
Idaho	1,156	83,574	14
Illinois	11,853	57,918	205
Indiana	5,820	36,420	160
Iowa	2,861	56,276	51
Kansas	2,601	82,282	32
Kentucky	3,851	40,411	95
Louisiana	4,359	51,843	84
Maine	1,236	35,387	35
Maryland	5,078	12,407	409
Massachusetts	5,976	10,555	566
Michigan	9,575	96,810	99
Minnesota	4,619	86,943	53
Mississippi	2,666	48,434	55
Missouri	5,286	69,709	76
Montana	862	147,046	6
Nebraska	1,644	77,358	21
Nevada	1,477	110,567	13
New Hampshire	1,132	9,351	121
New Jersey	7,931	8,722	909
New Mexico	1,676	121,598	14
New York	18,178	54,475	334
North Carolina	7,150	53,821	133
North Dakota	637	70,704	9
Ohio	11,203	44,828	250
Oklahoma	3,271	69,903	47
Oregon	3,141	98,386	32
Pennsylvania	12,134	46,058	263
Rhode Island	1,001	1,545	648
South Carolina	3,732	32,007	117
South Dakota	735	77,121	10
Tennessee	5,228	42,146	124
Texas	18,592	268,601	69
Utah	1,944	84,904	23
Vermont	579	9,615	60
Virginia	6,646	42,769	155
Washington	5,497	71,303	77
West Virginia	1,824	24,231	75
Wisconsin	5,159	65,503	79
Wyoming	487	97,818	5

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports: Population Projections for States*, P25-1111, Table 4; *Statistical Abstract of the United States*, 1992, Table 340.

Indicator 2: Wealth and income

Gross state product (GSP) represents the level of production or wealth of a state, as measured by the aggregate value of goods and services produced within its borders within a given period of time. States with equal GSPs can have very different numbers of inhabitants, however. GSP *per capita* provides a measure of the resources available to a state relative to the size of its population. States with a large GSP per capita generally are better able to provide educational services to their residents. State median household income is the income earned by the household in a given state whose income is halfway between that of the poorest and the richest households in the state, as ranked by annual income. The two measures of GSP per capita and median household income largely parallel each other across the states, with modest variations.

- **Among the states, Alaska had the highest GSP per capita in 1992—$40,942—almost $8,000, or 20 percent, more than the state (Delaware) with the next highest GSP, over $13,000 more than New York, and over $17,000 more than California.**

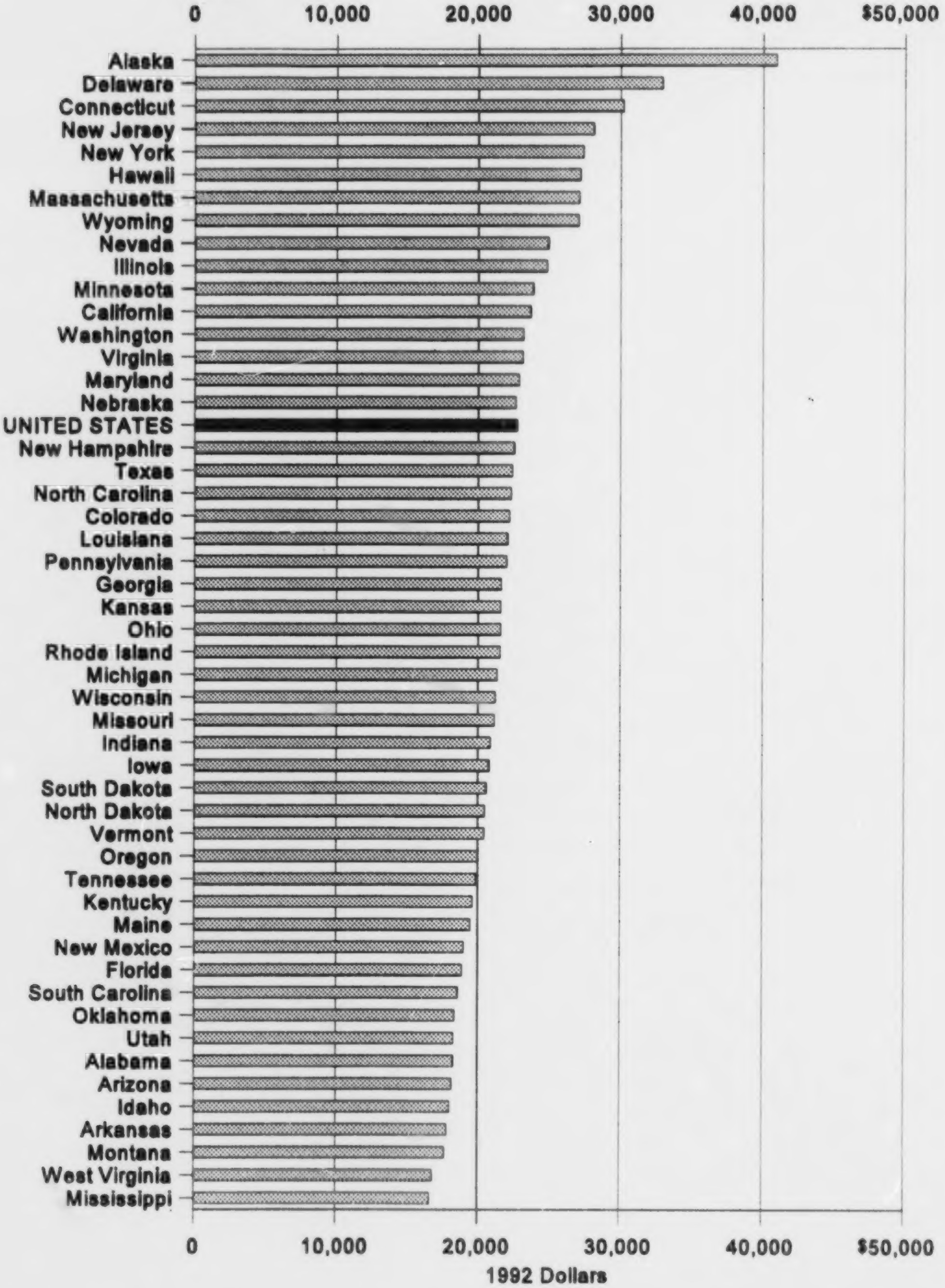
- **The majority of states had GSPs per capita of more than $20,000. Only sixteen states reported GSPs per capita below $20,000. Two states—Mississippi and West Virginia—had per capita GSPs below $17,000, about half the level of Delaware's GSP per capita, and far less than half of Alaska's.**

- **The majority of states had a median household income of greater than $30,000 in 1993. No state had a median household income of less than $20,000.**

- **There was considerable variation in median household income from state to state. At the high end, three states had median household incomes of over $40,000 (Alaska, Hawaii, and New Jersey). At the low end, Arkansas, West Virginia, and Mississippi all had median household incomes of less than $24,000.**

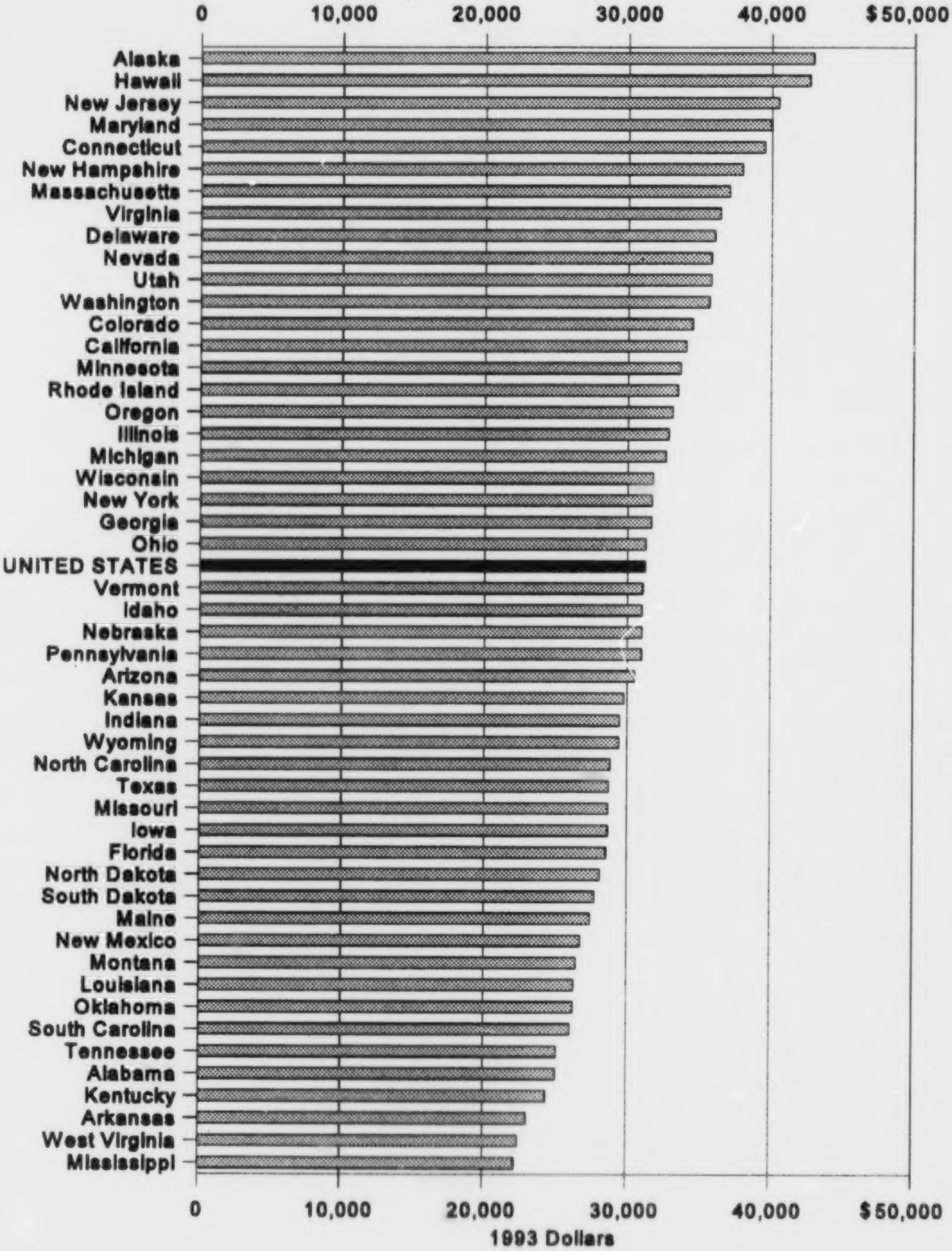
- **Four states—Mississippi, West Virginia, Arkansas, and Alabama—ranked low on both measures, adversely affecting their ability to finance educational improvements.**

Figure 2a: Gross state product (GSP) per capita, by state: 1992



SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, December 1993; Bureau of the Census, *Statistical Abstract of the United States*, 1992, Table 25.

Figure 2b: Median household income, by state: 1993



SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Report: Consumer Income*, P60-188, Table B.

Table 2: Gross state product (GSP) per capita (1992) and median household income (1993), by state

State	Total population (thousands)	GSP (millions)	GSP per capita (1992 dollars)	Median household income (1993 dollars)
UNITED STATES	**263,434**	**$5,994,063**	**$22,754**	**$31,241**
Alabama	4,274	78,137	18,282	25,082
Alaska	634	25,957	40,942	42,931
Arizona	4,072	74,060	18,188	30,510
Arkansas	2,468	43,994	17,826	23,039
California	32,398	767,496	23,690	34,073
Colorado	3,710	82,463	22,227	34,488
Connecticut	3,274	98,878	30,201	39,516
Delaware	718	23,658	32,950	36,064
District of Columbia	559	40,441	72,345	27,304
Florida	14,210	268,609	18,903	28,550
Georgia	7,102	153,534	21,618	31,663
Hawaii	1,221	33,200	27,191	42,662
Idaho	1,156	20,860	18,045	31,010
Illinois	11,853	294,449	24,842	32,857
Indiana	5,820	121,547	20,884	29,475
Iowa	2,861	59,457	20,782	28,663
Kansas	2,601	56,164	21,593	29,770
Kentucky	3,851	75,561	19,621	24,376
Louisiana	4,359	96,245	22,080	26,312
Maine	1,236	24,085	19,486	27,438
Maryland	5,078	116,168	22,877	39,939
Massachusetts	5,976	161,966	27,103	37,064
Michigan	9,575	204,421	21,349	32,662
Minnesota	4,619	110,276	23,874	33,682
Mississippi	2,666	44,294	16,614	22,191
Missouri	5,286	111,804	21,151	28,682
Montana	862	15,227	17,665	26,470
Nebraska	1,644	37,213	22,636	31,008
Nevada	1,477	36,816	24,926	35,814
New Hampshire	1,132	25,524	22,548	37,964
New Jersey	7,931	223,146	28,136	40,500
New Mexico	1,676	31,853	19,005	26,758
New York	18,178	497,555	27,371	31,697
North Carolina	7,150	159,637	22,327	28,820
North Dakota	637	13,057	20,498	28,118
Ohio	11,203	241,804	21,584	31,285
Oklahoma	3,271	60,188	18,400	26,260
Oregon	3,141	62,724	19,969	33,138
Pennsylvania	12,134	266,968	22,002	30,995
Rhode Island	1,001	21,582	21,560	33,509
South Carolina	3,732	69,410	18,599	26,053
South Dakota	735	15,131	20,586	27,737
Tennessee	5,228	103,894	19,873	25,102
Texas	18,592	416,867	22,422	28,727
Utah	1,944	35,590	18,308	35,786
Vermont	579	11,844	20,456	31,065
Virginia	6,646	153,806	23,143	36,433
Washington	5,497	127,578	23,209	35,655
West Virginia	1,824	30,699	16,831	22,421
Wisconsin	5,159	109,517	21,228	31,766
Wyoming	487	13,186	27,076	29,442

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports: Population Projections for States*, P25-1111, Table 4; *Current Population Reports: Consumer Income*, P60-188, Table B. Bureau of Economic Analysis, *Survey of Current Business*, May, 1995.

Indicator 3: Minority population as a percentage of the total population

A state's racial and ethnic diversity can contribute a richness and variety to its culture, society, and economy. Likewise, racial and ethnic diversity in the schools can enhance the learning environment by introducing students to that diversity and, perhaps, facilitating cultural understanding and social cohesion in our democracy. However, because many minority students come from poor or non-English-speaking backgrounds, they may be at a greater risk of not succeeding in school than other children. For example, Hispanic children are more likely to speak a language other than English at home. Therefore, states with large Hispanic populations may be more likely to need schools which offer bilingual or English as a Second Language (ESL) classes.

- **In 1995, the percentage of non-white individuals in the state population varied considerably across states. The state with the largest proportion of non-white individuals, Hawaii, had over 29 times the share of non-white individuals than any of the three states with the smallest proportion, New Hampshire, Maine, or Vermont.**

- **Thirteen states had non-white populations of over 20 percent. One state had a non-white population greater than 50 percent. Seven states had non-white populations of 5 percent or less.**

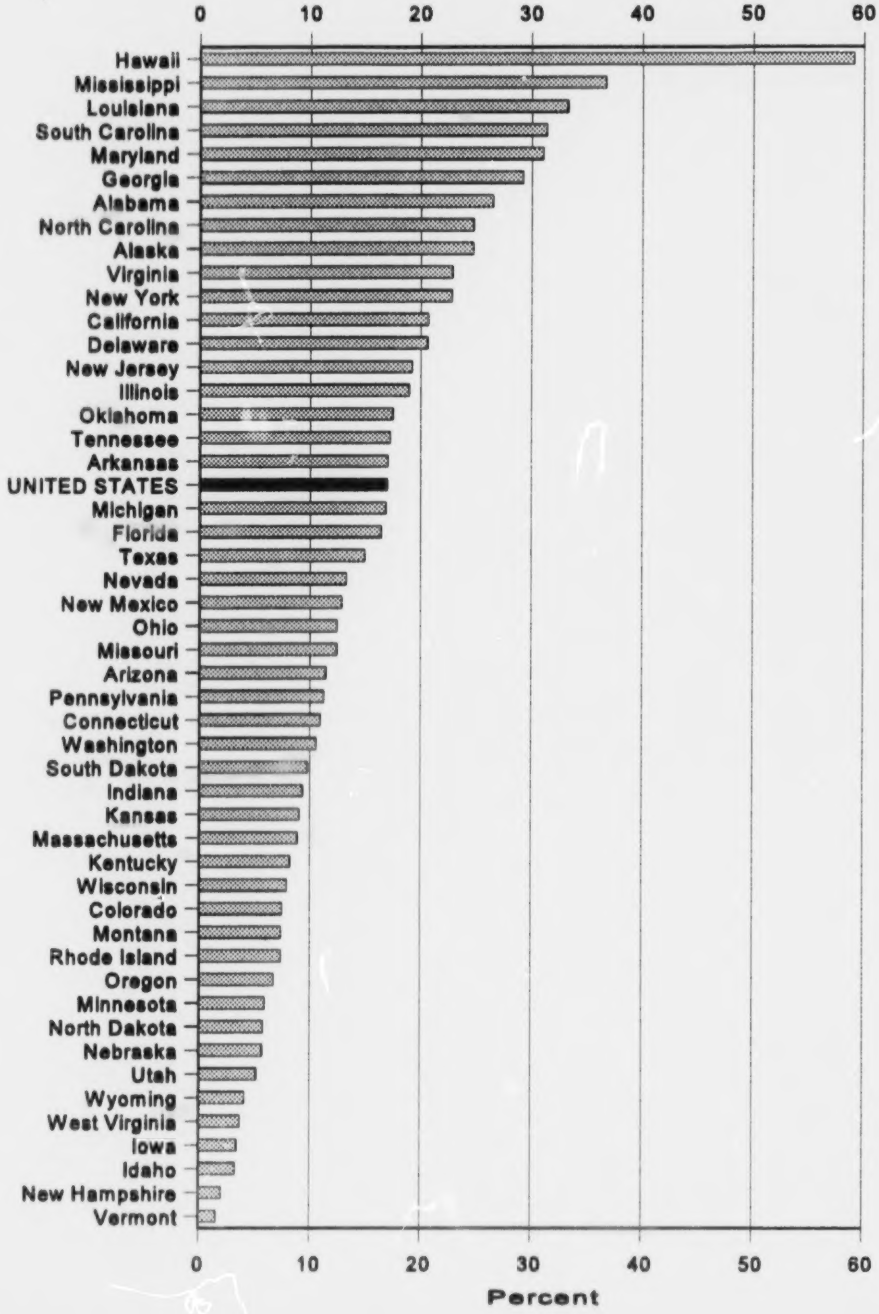
- **Four states had Hispanic populations of over 20 percent. All four states, Arizona, California, New Mexico, and Texas, are located in the Southwest. Other states with relatively large Hispanic populations included Florida (14 percent), Colorado (14 percent), Nevada (13 percent), New York (13 percent), and New Jersey (11 percent).**

Notes on interpretation:

The categories "non-white" and "Hispanic origin" overlap because persons of Hispanic origin can be of any race. There are individuals who are both black and Hispanic. Black Hispanics are counted as non-whites in Figure 3a and as Hispanics in Figure 3b. The 1990 Census category "non-white *or* Hispanic," included in Table 3, counts such individuals only once.

The term "minority" used here refers to ethnic groups that collectively comprise less than 50 percent of the population in the United States as a whole, even though non-whites and Hispanics may constitute a majority in particular individual states. If current demographic trends continue, however, the non-white and Hispanic population could constitute a majority of the U.S. population within several decades.

Figure 3a: Non-white population as a percentage of the total population, by state: 1995



SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports: Population Projections for States*, P25-1111, Table 3; 1990 Census of the Population, *Social and Economic Characteristics*, Table 135.

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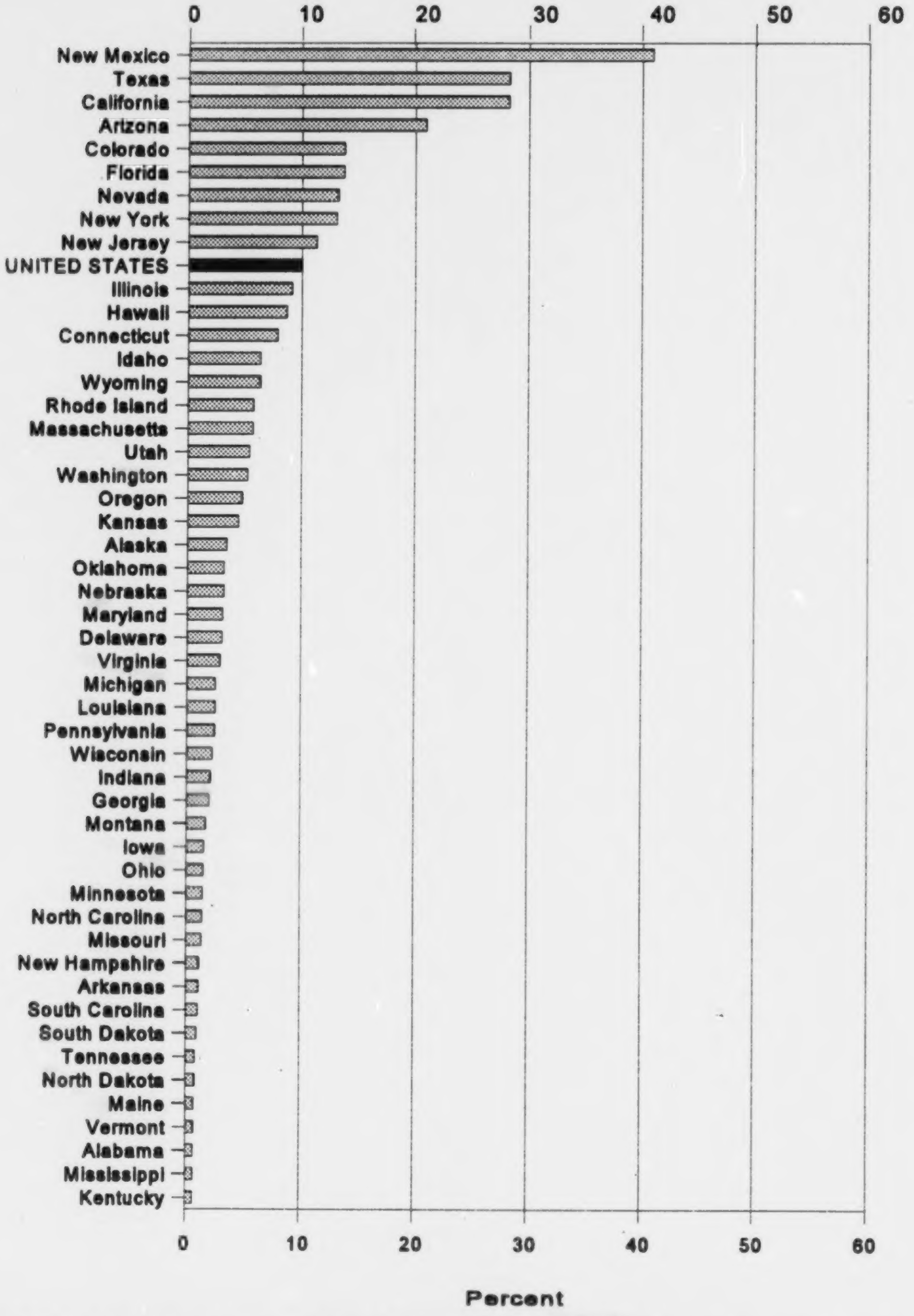
Figure 3b: Hispanic population as a percentage of the total population, by state: 1995



SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports: Population Projections for States*, P25-1111, Table 3; 1990 Census of the Population, *Social and Economic Characteristics*, Table 135.

Table 3: Percentage non-white and percentage Hispanic in total population (1995) and percentage non-white or Hispanic (1990), by state

State	Percent non-white (1995)	Percent Hispanic (1995)	Percent non-white or Hispanic (1990)
UNITED STATES	**17**	**10**	**24**
Alabama	27	1	27
Alaska	25	3	26
Arizona	11	21	28
Arkansas	17	1	18
California	21	28	43
Colorado	8	14	19
Connecticut	11	8	16
Delaware	21	3	21
District of Columbia	68	5	73
Florida	16	14	27
Georgia	29	2	30
Hawaii	59	9	69
Idaho	3	6	8
Illinois	19	9	25
Indiana	9	2	10
Iowa	3	2	4
Kansas	9	4	12
Kentucky	8	1	8
Louisiana	33	3	34
Maine	2	1	2
Maryland	31	3	30
Massachusetts	9	6	12
Michigan	17	3	18
Minnesota	6	1	6
Mississippi	37	1	37
Missouri	12	1	13
Montana	7	2	8
Nebraska	6	3	7
Nevada	13	13	21
New Hampshire	2	1	3
New Jersey	19	11	26
New Mexico	13	41	50
New York	23	13	31
North Carolina	25	1	25
North Dakota	6	1	6
Ohio	12	2	13
Oklahoma	17	3	19
Oregon	7	5	9
Pennsylvania	11	2	12
Rhode Island	7	6	10
South Carolina	31	1	31
South Dakota	10	1	9
Tennessee	17	1	17
Texas	15	28	39
Utah	5	5	9
Vermont	2	1	2
Virginia	23	3	24
Washington	11	5	13
West Virginia	4	1	4
Wisconsin	8	2	9
Wyoming	4	6	9

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports: Population Projections for States*, P25-1111, Table 3; 1990 Census of the Population, *Social and Economic Characteristics*, Table 135.

ACCESS, PARTICIPATION, AND PROGRESS

Indicator 4: School choice

A key component of some school reform efforts is accessibility of competitive alternatives to traditional public schools that are assigned by residence. School choice programs can take three general forms: aid or tax relief for parents who enroll their children in private schools; charter schools; and open enrollment within the public school system. Aid to parents who place their children in private schools lowers the cost of attendance, making private education a more accessible alternative to public education. Examples of aid or relief include publicly-funded vouchers that pay all or part of private school tuition, tax credits or deductions that compensate parents for some of the expense of private school, and free bus transportation for children in private schools. Charter schools are publicly-funded schools created and operated by a group of teachers or other qualified individuals that are free from some aspects of direct state and local school district oversight. Laws enabling the creation of charter schools are characterized here as "medium–strong" or "weak," with medium to strong laws allowing a large to unlimited number of new schools, approval for the charter schools provided by entities other than local school boards, and waiver of most state and local regulations. Weak laws allow only existing public schools to be chartered, with approval coming from local school boards, and limitations on both the authority of the charter school and the number of charters granted. Open enrollment (sometimes called "public school choice") allows parents to choose which public school their child will attend, either within the school district, across school districts, or both. Many of these choice programs are designed to create competition that supporters hope will lead to a higher quality of education and a reduction in the perceived complacency in the public school system.

- **By 1996, only four states—California, Massachusetts, Michigan, and Minnesota—had all three general types of school choice programs—some form of aid or relief for private school parents (i.e. vouchers, tax credits, free school transportation), operating charter schools, and open enrollment—in place.**

- **With the exception of Louisiana or West Virginia, where public transportation was made available to private-school students, none of the Southern or Southwestern states provided any form of aid or relief to parents who sent their children to private schools. The majority of states in the Northeast, Midwest, and on the West Coast provided public transportation for private-school students.**

- **By May 1996, half of the U.S. states had passed legislation allowing the establishment of some charter schools.**

- **In 1995–96, 7 states had none of the types of school choice programs discussed here.**

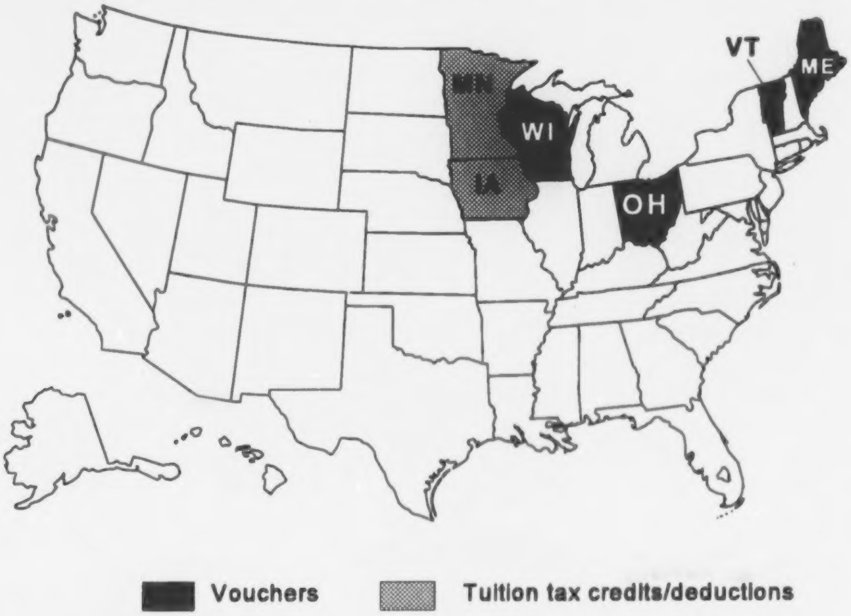
Notes on interpretation:

There exist a wide variety of open enrollment, or "public school choice" programs. States are identified for this indicator as having open enrollment only if they have a specific *state* policy on the subject. There exist some school districts even in the states not so designated, however, that offer open enrollment plans on their own. Still other school districts may have "magnet" schools or programs which draw students from all areas of a school district, or even from other districts by legal agreement.

Charter schools are public schools. If they operate independent of some or all local school district oversight, they are still subject to state oversight. Some observers attribute the label "district school" to traditional public schools in order to more clearly distinguish them from "charter schools."

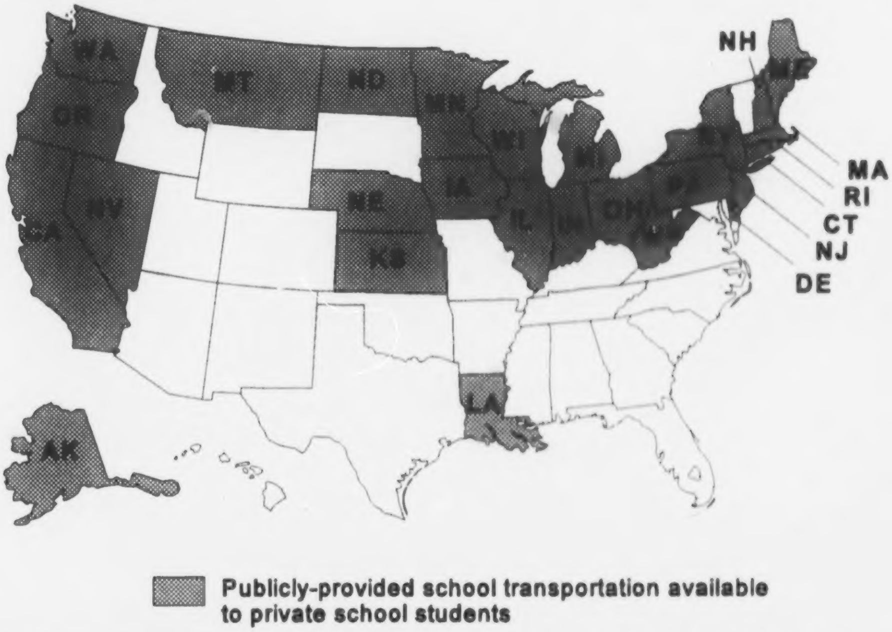
Programs of tuition tax credits or deductions for private school tuition payments and free public bus transportation for private school students generally predate the current era of school choice legislation, so may not be thought of as school choice programs by some. Any public action, however, that makes private schools less expensive affects parents' school choice.

Figure 4a: States with public funding for private-school parents: 1996


VT
ME
MN
WI
IA
OH
■ Vouchers
▨ Tuition tax credits/deductions

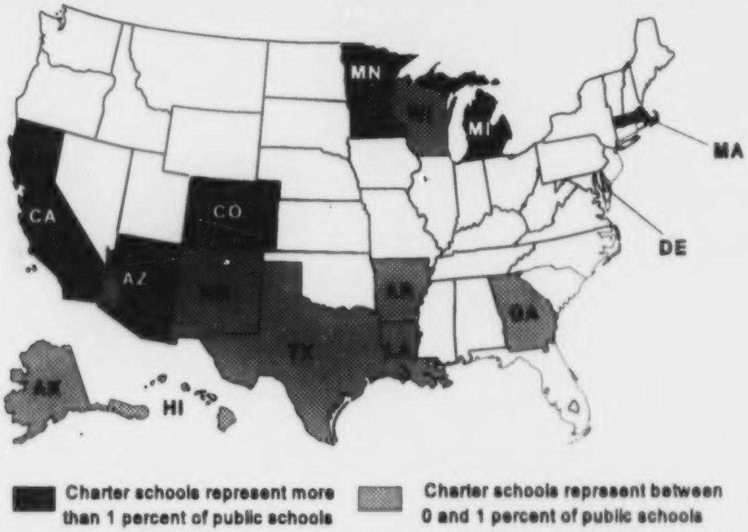
SOURCE: Heritage Foundation, *School Choice Programs: What's Happening in the States,* 1997.

Figure 4b: States with public school transportation available to private schools: 1995


NH
WA
ME
MT
ND
MN
OR
WI
MI
NY
MA
RI
IA
NE
PA
CT
NV
IL
IN
OH
WV
NJ
CA
KS
DE
LA
AK
▨ Publicly-provided school transportation available to private school students

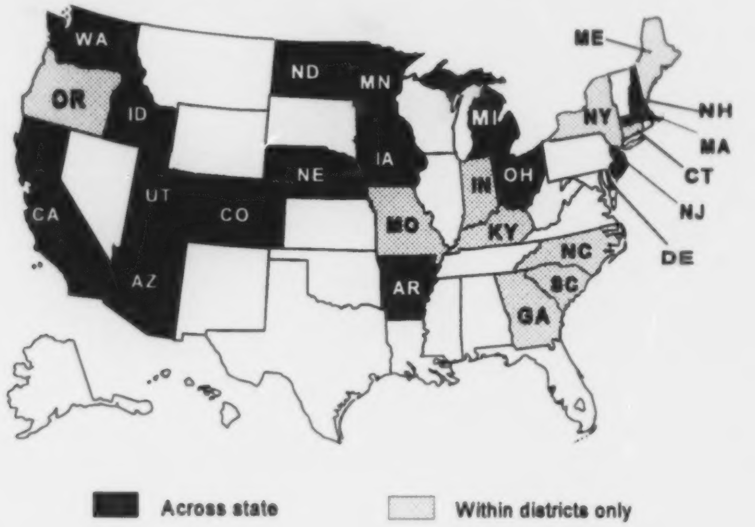
SOURCE: U.S. Education Department, Office of Non-public Education, *The Regulation of Private Schools in America: A State-by-State Analysis*, September, 1995.

Figure 4c: States with public charter schools approved, by proportion of all elementary-secondary schools: May 1996


MN
WI
MI
MA
CA
CO
DE
AZ
NM
AR
GA
TX
LA
AK
HI
Charter schools represent more than 1 percent of public schools
Charter schools represent between 0 and 1 percent of public schools

SOURCE: Center for Policy Studies, "A Guide to Charter Activity in 1996," U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1996*, Table 95.

Figure 4d: States with public school open enrollment: 1995


WA
OR
ID
ND
MN
ME
NY
NH
MA
CT
NJ
DE
MI
IA
NE
UT
CO
CA
IN
OH
MO
KY
NC
SC
GA
AR
AZ
Across state
Within districts only

SOURCE: Heritage Foundation, *School Choice Programs: What's Happening in the States*, March, 1997.

Table 4: School choice programs, by type of program and state: 1995–96

	Aid or relief to private school parents				Number of elementary-secondary charter schools, 1996				Open enrollment[2]	
State	Tuition vouchers	Tuition tax relief	Free bus transportation	Charter school law[1]	Operating in June	Expected in Fall	Approved as of May	Percent of all schools	Across state	Within districts only
Alabama										
Alaska			Yes	Weak	0	3	3	0–1		
Arizona				Medium–Strong	46	98	104	> 1.0	Yes	
Arkansas				Weak	0	1	2	0–1	Yes	
California			Yes	Medium–Strong	89	99	105	> 1.0	Yes	
Colorado				Medium–Strong	24	29	33	> 1.0	Yes	
Connecticut			Yes	Weak	0	0	0	0		Yes
Delaware			Yes	Medium–Strong	0	2	3	0–1	Yes	
District of Columbia				Medium–Strong	0	0	0	0		
Florida				Medium–Strong	0	0	0	0		
Georgia				Weak	3	8	3	0–1		Yes
Hawaii				Weak	2	2	2	0–1		
Idaho									Yes	
Illinois			Yes	Weak	0	0	0	0		
Indiana			Yes							Yes
Iowa		Yes	Yes						Yes	
Kansas			Yes	Weak	0	0	0	0		
Kentucky										Yes
Louisiana			Yes	Medium–Strong	0	2	6	0–1		
Maine	Yes[4]		Yes							Yes
Maryland										
Massachusetts			Yes	Medium–Strong	15	15	25	> 1.0	Yes	
Michigan			Yes	Medium–Strong	44	67	78	> 1.0	Yes	
Minnesota		Yes	Yes	Medium–Strong	12	20	20	> 1.0	Yes	
Mississippi										
Missouri										Yes
Montana			Yes							
Nebraska			Yes						Yes	
Nevada			Yes							
New Hampshire			Yes	Weak	0	0	0	0	Yes	
New Jersey			Yes	Medium–Strong	0	0	0	0	Yes	
New Mexico				Weak	4	5	4	0–1		
New York			Yes							Yes
North Carolina				Medium–Strong	0	0	0	0		Yes
North Dakota			Yes						Yes	
Ohio	Yes[3]		Yes						Yes	
Oklahoma										
Oregon			Yes							Yes
Pennsylvania			Yes							
Rhode Island			Yes	Weak	0	1	0	0–1		
South Carolina				Weak	0	0	0	0		Yes
South Dakota										
Tennessee										
Texas				Medium–Strong	0	18	30	0–1		
Utah									Yes	
Vermont	Yes[4]									
Virginia										
Washington			Yes						Yes	
West Virginia			Yes							
Wisconsin	Yes[5]		Yes	Weak	7	8	8	0–1		
Wyoming				Weak	0	0	0	0		

> "Greater than"

[1] Laws enabling the creation of charter schools are characterized here as "medium–strong" or "weak," with medium–strong laws allowing a large to unlimited number of new schools, approval for the charter schools provided by entities other than local school boards, and waiver of most state and local regulations. Weak laws allow only existing public schools to be chartered, with approval coming from local school boards, and limitations on both the authority of the charter school and the number of charters granted. Connecticut, the District of Columbia, Florida, Illinois, Kansas, New Hampshire, New Jersey, North Carolina, South Carolina, and Wyoming only recently passed charter school laws, but had no charter schools by the summer of 1996.

[2] Only includes open enrollment plans which are state-mandated (i.e. in which local participation may be required). Plans that are purely voluntary for each school district are not included. Alabama had a voluntary open enrollment plan.

[3] A small voucher program was available only to a limited number of low-income elementary school students in Cleveland, both for religious and for non-religious private schools. It was declared unconstitutional in a state court in 1997, however.

[4] Students living in towns that do not maintain their own public schools or belong to unified school districts were free to attend any public or approved nonreligious private secondary school, in or out of state, selected by their parents with their town's school board paying the tuition. Eighteen percent of the state's secondary school students were eligible. A much smaller proportion of the state's elementary school students in Vermont were eligible for a somewhat more restrictive program.

[5] A small voucher program was available only to a limited number of low-income elementary school students in Milwaukee, and only for non-religious private schools.

SOURCE: Center for Policy Studies, "A Guide to Charter Activity in 1996"; Heritage Foundation, *School Choice Programs, What's Happening in the States, 1997, 1996; 1995*; U.S. Department of Education, Office of Non-public Education, *The Regulation of Private Schools in America: A State-by-State Analysis*, September, 1995; National Center for Education Statistics, *Digest of Education Statistics, 1996*, Table 95.

Indicator 5: Entry ratio to higher education

This indicator measures the number of new high school graduates entering institutions of higher education per 100 persons 18 years old in a state. "New" high school graduates are those having graduated within the previous 12 months. Age 18 is the typical age for high school graduates who go straight to college without an interruption in their schooling. Included in this indicator are entry ratios measured either in the state of the higher education institution or in the state a of student's original residence. State entry ratios can differ on the two measures due to the migration of some students to colleges in states other than their original state of residence. An entry ratio counted in the state of the higher education institution represents a state's ability to attract new students to its public and private colleges and its availability of resources to educate the students it attracts (i.e., the college must have a place available, a dormitory room, etc.). An entry ratio counted in the state of a student's original residence represents a state's ability to "produce" high school graduates capable of and interested in college work.

- **In 1992, the number of new high school graduates entering public and private higher education institutions per 100 persons 18 years old showed considerable variation across states. When counted in the state of the institution, Rhode Island had the highest ratio (90.0), and Nevada the lowest (15.6). The range between the highest and lowest entry ratios was narrower when counted in the state of a student's original residence. Nevada still had the lowest (19.8), and North Dakota the highest (60.8).**

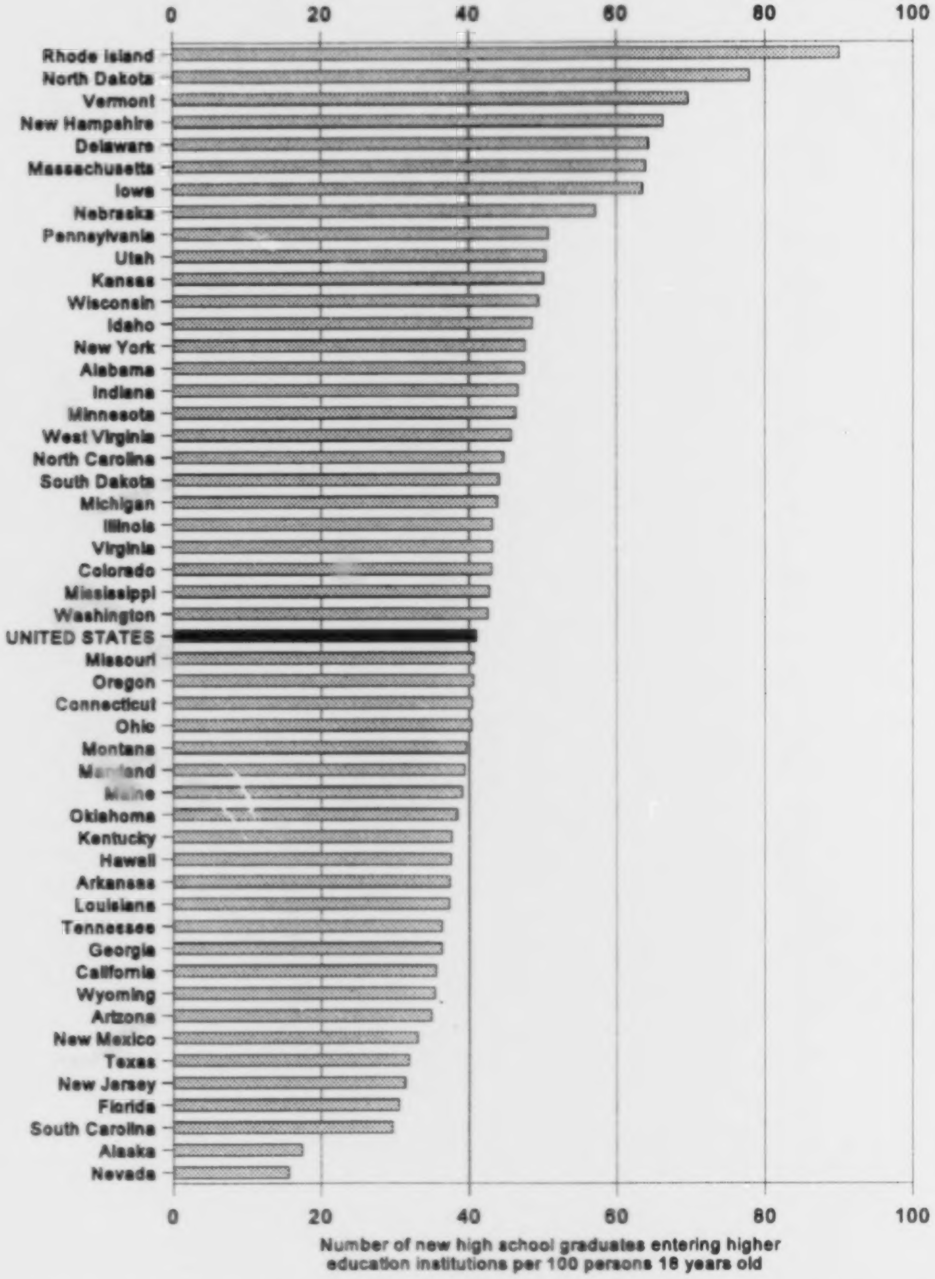
- **The four states with the lowest new high school graduate entry ratios, counted in the state of the institution, were the same four when counted in the state of a student's original residence. Similarly, most states with relatively high entry ratios when counted in the state of the institution also had relatively high entry ratios when counted in the state of a student's original residence. A notable exception was New Jersey, with an entry ratio of 31 percent when counted at the location of the institution, but a ratio of 51 percent when counted at the student's original state of residence. This reflected a large "production" of high school graduates capable of and interested in college work, a relative paucity of places for them to attend college in New Jersey, and a resulting outward migration of new high school graduates to colleges in other states.**

Notes on interpretation:

Entry ratios should *not* be interpreted as entry *rates*. Entry ratios allow comparisons across states by standardizing entry at a particular education level to the size of the population in an age group typical for entry at that level. It is not, however, an estimate of the percentage of that age group who enter education at that level. In the case of this indicator, because some new high school graduates entering higher education institutions are not 18 years old, they are not represented in the denominator of the ratio.

In the United States, it is common for students to choose to enroll in an institution located in a state other than the one in which they originally resided. Evaluating two sets of figures based on location of institution or location of students' original state of residence illustrates patterns of student migration across states. If a large number of students migrate into a state for schooling and fewer migrate out of it, that state's entry ratio will be higher when counted at the location of the institution than at students' original states of residence. This is because the denominator for both ratios (reference-age population of the state) stays the same, but the numerator increases when the net migration of students to the state is positive.

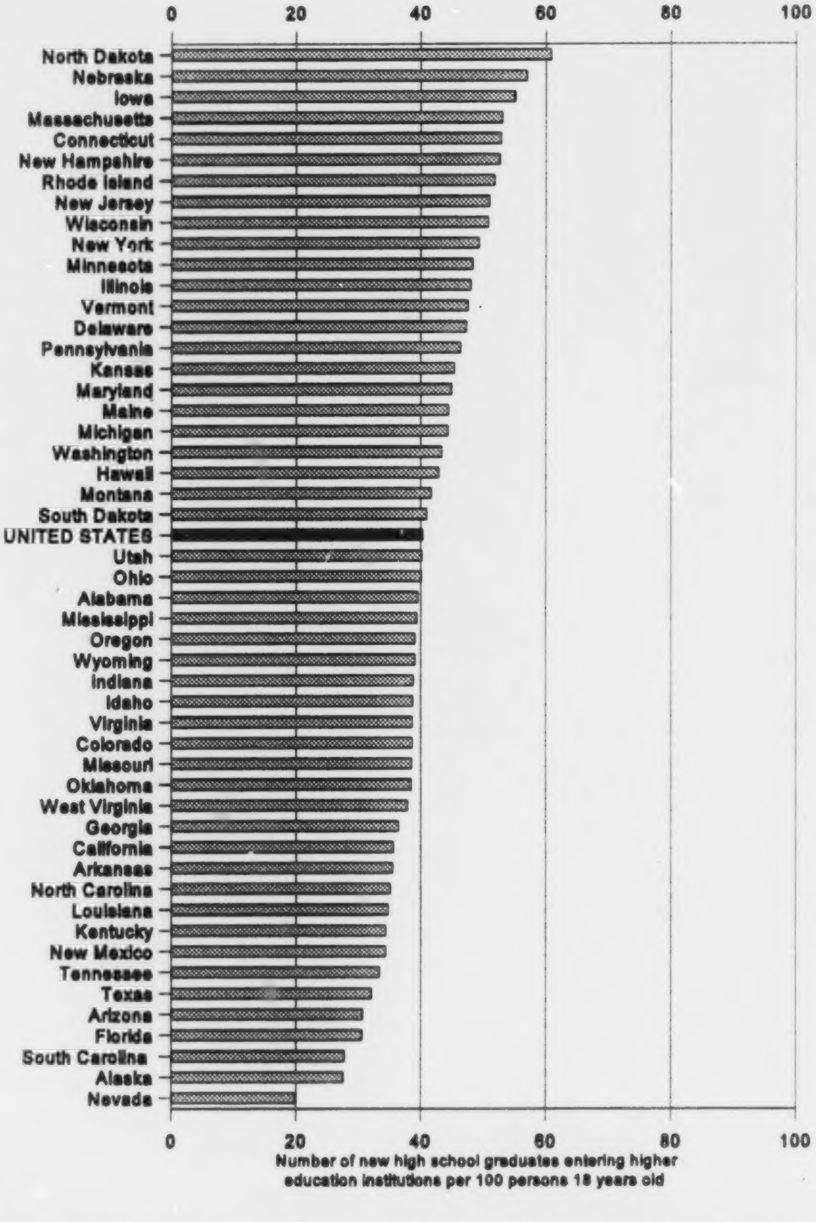
Figure 5a: Number of new high school graduates* entering public and private higher education institutions per 100 persons 18 years old, counted in state of institution, by state: 1992



* Includes only students enrolled at the reporting higher education institution for the first time who graduated from high school within the previous 12 months.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), *Residence of First-time Students* Survey (based on: *State Comparisons of Education Statistics: 1969—70 to 1993—94*, Table 46). U.S. Department of Commerce, Bureau of the Census, Population Division, unpublished tables consistent with Press Release CB95-39, issued March 1, 1995.

Figure 5b: Number of new high school graduates* entering public and private higher education institutions per 100 persons 18 years old, counted in state of student's original residence, by state: 1992



* Includes only students enrolled at the reporting higher education institution for the first time who graduated from high school within the previous 12 months.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), *Residence of First-time Students* Survey (based on: *State Comparisons of Education Statistics: 1969–70 to 1993–94*, Table 46). U.S. Department of Commerce, Bureau of the Census, Population Division, unpublished tables consistent with Press Release CB95-39, issued March 1, 1995.

Table 5: Number of new high school graduates* entering public and private higher education institutions per 100 persons 18 years old, by location and state: 1992

State	Counted in state of institution	Counted in state of student's original residence	
		Attending college in any state	Attending college in home state
UNITED STATES	**40.9**	**40.3**	**32.6**
Alabama	47.5	39.5	36.0
Alaska	17.4	27.5	14.2
Arizona	34.9	30.6	26.9
Arkansas	37.4	35.5	30.2
California	35.5	35.6	32.3
Colorado	43.1	38.6	29.1
Connecticut	40.4	52.8	25.5
Delaware	64.3	47.3	31.3
District of Columbia	101.3	26.3	6.9
Florida	30.5	30.6	24.8
Georgia	36.3	36.4	29.2
Hawaii	37.5	42.8	32.5
Idaho	48.6	38.7	29.9
Illinois	43.2	48.0	38.5
Indiana	46.6	38.8	34.2
Iowa	63.5	55.1	46.4
Kansas	50.1	45.3	39.3
Kentucky	37.6	34.4	30.2
Louisiana	37.3	34.7	30.4
Maine	39.1	44.4	26.3
Maryland	39.4	44.8	29.2
Massachusetts	64.0	53.0	35.7
Michigan	43.8	44.3	40.0
Minnesota	46.3	48.3	35.8
Mississippi	42.8	39.3	35.3
Missouri	40.7	38.5	31.7
Montana	39.6	41.7	28.8
Nebraska	57.1	56.9	47.0
Nevada	15.6	19.8	11.7
New Hampshire	66.3	52.6	29.6
New Jersey	31.4	50.9	28.3
New Mexico	33.0	34.4	27.3
New York	47.6	49.3	39.5
North Carolina	44.7	35.2	32.5
North Dakota	77.9	60.8	48.8
Ohio	40.3	40.1	34.2
Oklahoma	38.4	38.4	33.5
Oregon	40.6	39.1	31.6
Pennsylvania	50.8	46.3	38.0
Rhode Island	90.0	51.8	34.4
South Carolina	29.7	27.8	22.8
South Dakota	44.1	41.0	28.6
Tennessee	36.3	33.3	28.0
Texas	31.9	32.1	29.1
Utah	50.4	40.2	37.0
Vermont	69.7	47.6	25.2
Virginia	43.2	38.6	30.1
Washington	42.5	43.3	37.2
West Virginia	45.7	37.8	32.2
Wisconsin	49.4	50.8	42.8
Wyoming	35.4	39.1	26.4

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* Includes only students enrolled at the reporting higher education institution for the first time who graduated from high school within the previous 12 months.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), *Residence of First-time Students* Survey (based on: *State Comparisons of Education Statistics: 1969-70 to 1993-94*, Table 46). U.S. Department of Commerce, Bureau of the Census, Population Division, unpublished tables consistent with Press Release CB95-39, issued March 1, 1995.

Indicator 6: Migration of new high school graduates entering higher education

High school graduates are free to move to another state to attend college, and many do, despite the inconvenience and expense of living away from home and, in most cases probably, the higher tuition for out-of-state students. Students are more likely to cross state lines if: their home state does not provide the particular higher education opportunities they seek while other states do, and those opportunities in other states are relatively close and affordable. One may expect to find larger proportions of migrant students in geographically small states, because educational opportunities in neighboring states will be conveniently close. One may also expect to find larger proportions of in-migrant students in states with a large number of private institutions, which normally charge the same tuition to out-of-state and in-state students alike. This indicator counts the number of students who migrated into and out of each state per 100 new high school graduates enrolled in higher education institutions in that state. This indicator differs from the previous one in several ways, including the base populations used—new high school graduates enrolled in college in this indicator and all 18-year-olds in the previous one.

- **In 1992, three states—Rhode Island, Vermont, and Delaware—had net in-migration ratios of over 25 migrants per 100 new high school graduates enrolled, the highest among the states. Alaska and New Jersey had the highest out-migration ratios, with the equivalent of over 50 migrants per 100 new high school graduates enrolled pursuing higher education in other states.**

- **Total migratory activity (the sum of students leaving and students entering a state to pursue higher education) exceeded 75 migrants per 100 new high school graduates enrolled in higher education institutions in 9 states: Connecticut, Vermont, Alaska, New Hampshire, New Jersey, Rhode Island, Maine, Nevada, and Delaware. Eight states experienced a net migration of less than (+/-) one per 100: Mississippi, Ohio, Nebraska, Oklahoma, Florida, Georgia, California, and Texas.**

Notes on interpretation:

Both net and gross out-migration ratios are presented as percentages of a state's total enrollment of new high school graduates. Students who leave their home state are considered "out-migrants" for that state. Students who come from another state are considered "in-migrants" for the state where they enroll in a higher education program. Thus, each migrating student is actually counted twice, as an out-migrant from his or her home state (and a subtraction in the numerator of the net migration measure), and as an in-migrant in the state of his or her higher education institution (and an addition in the numerator of the net migration measure). The denominator is always the same—the number of new high school graduates enrolled in higher education institutions in that state.

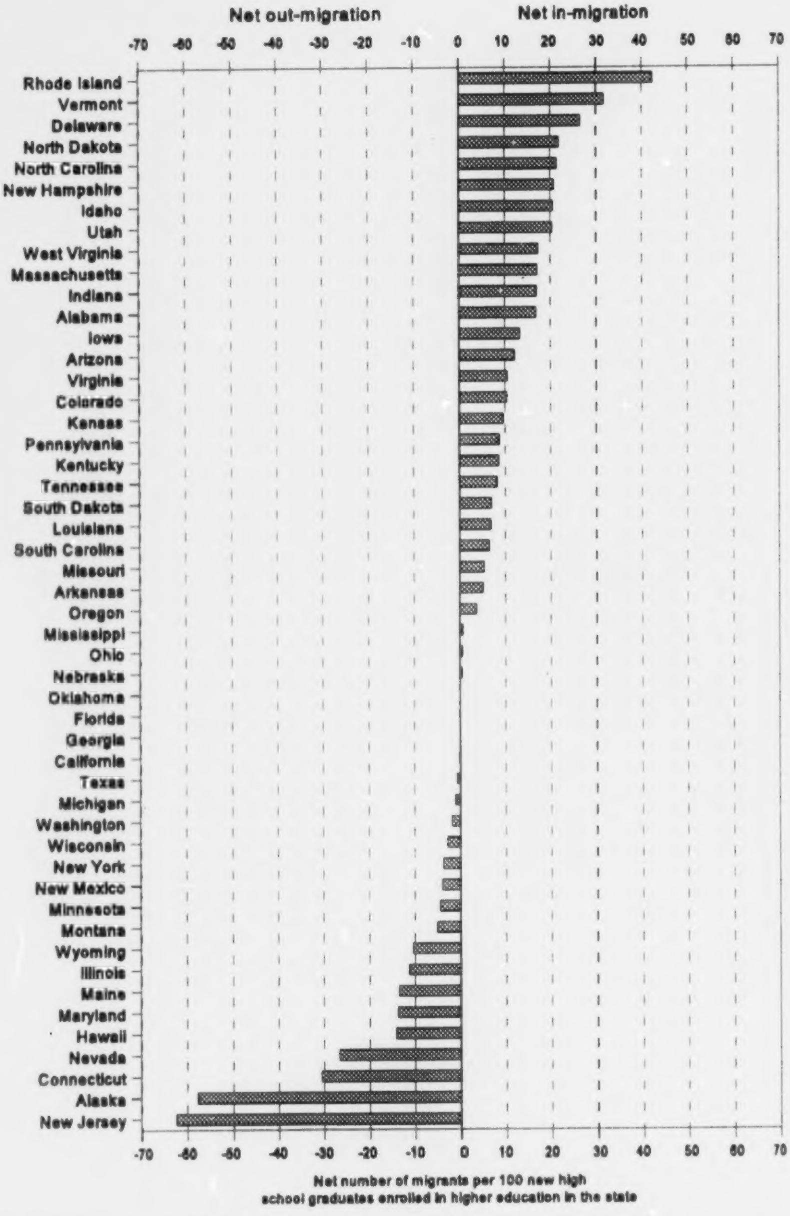
Older, eastern states tend to have relatively more private institutions than younger, western states, thus increasing their potential in-migration rates.

Larger states, large in size or in college-age population, tend to foster proportionally less migratory activity across state lines than smaller states. Geographically large states may experience less out-migration simply because it is easier for a student to move away from home and still stay within the state's borders, while this is less of a possibility for students from smaller states. Larger states can also offer a wider variety of experiences and opportunities to their high school graduates, be they different higher education institutions, different academic or professional programs, or different community environments.

Conversely, smaller states have proportionally smaller base populations of new high school graduates enrolled in their higher education institutions. Thus, any migration into or out of the state looms larger when measured as a percentage of the small base population.

Entry ratios should *not* be interpreted as entry *rates*. Entry ratios allow comparisons across states by standardizing entry at a particular education level to the size of the population in an age group typical for entry at that level. It is not, however, an estimate of the percentage of that age group who enter education at that level. In the case of this indicator, because some new high school graduates entering higher education institutions are not 18 years old, they are not represented in the denominator of the ratio. In the case of this indicator, because "out-migrants" are captured in the numerator, but not the denominator of the ratio, it cannot be considered a rate.

Figure 6a: Net migration of new high school graduates* entering public and private higher education institutions per 100 new high school graduates enrolled in a state, by state: 1992

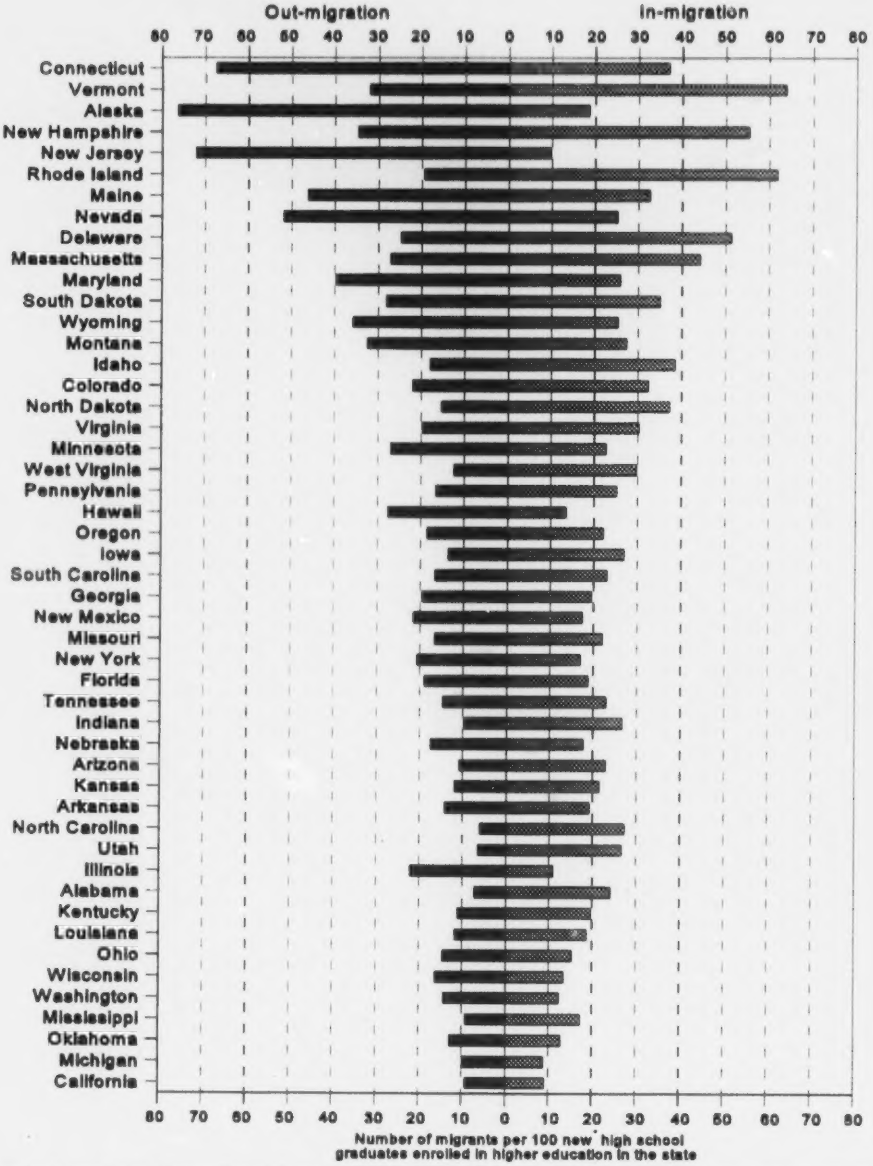


* Includes students enrolled at the reporting higher education institution for the first time who graduated from high school within the previous 12 months.

NOTE: This indicator counts the number of students who migrated into and out of a state per 200 new high school graugraduates enrolled in higher education institutions in that state. The destinations of 9,086 out-migrants – 7 migrants per 100 new high school graduates enrolled in higher education – cannot be determined.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), *Residence of First-time Students Survey* (based on: *State Comparisons of Education Statistics: 1969-70 to 1993-94*, Table 46).

Figure 6b: **Migration of new high school graduates* entering public and private higher education institutions per 100 new high school graduates enrolled in a state, by type of migration and state: 1992**



* Includes students enrolled at the reporting higher education institution for the first time who graduated from high school within the previous 12 months.

NOTE: This indicator counts the number of students who migrated into and out of a state per 100 new high school graduates enrolled in higher education institutions in that state. States are sorted from high to low according to the total number of migrants leaving and entering each state per 100 new high school graduates enrolled in higher education in the state. The destinations of 9,086 out-migrants – 7 migrants per 100 new high school graduates enrolled in higher education – cannot be determined.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), *Residence of First-time Students* Survey (based on: *State Comparisons of Education Statistics: 1969 – to 1993–94*, Table 46).

Table 6: Migration of new high school graduates[1] entering public and private higher education institutions per 100 new high school graduates enrolled in a state, by type of migration and state: 1992

State	Net migration (in-migrant ratio minus out-migrant ratio)	Out-migration (out-migrants per 100 new high school graduates enrolled)	In-migration (in-migrants per 100 new high school graduates enrolled)
UNITED STATES[2]	**3.6**	**23.1**	**26.9**
Alabama	16.8	7.3	24.1
Alaska	-57.7	76.3	18.6
Arizona	12.2	10.8	23.0
Arkansas	5.1	14.1	19.2
California	-0.2	9.2	9.0
Colorado	10.4	22.0	32.4
Connecticut	-30.5	67.4	37.0
Delaware	26.5	24.8	51.3
District of Columbia	74.1	19.1	93.2
Florida	-0.1	18.9	18.8
Georgia	-0.1	19.6	19.5
Hawaii	-14.1	27.6	13.6
Idaho	20.5	18.0	38.5
Illinois	-11.2	22.1	10.9
Indiana	16.9	9.7	26.7
Iowa	13.3	13.6	26.9
Kansas	9.6	11.9	21.5
Kentucky	8.6	11.1	19.7
Louisiana	6.9	11.8	18.7
Maine	-13.5	46.2	32.7
Maryland	-13.8	39.7	25.9
Massachusetts	17.1	27.1	44.2
Michigan	-1.1	9.9	8.7
Minnesota	-4.4	27.0	22.7
Mississippi	0.7	9.3	17.3
Missouri	5.4	16.6	22.0
Montana	-5.1	32.5	27.4
Nebraska	0.4	17.5	17.8
Nevada	-26.6	51.8	25.2
New Hampshire	20.7	34.7	55.3
New Jersey	-62.4	72.1	9.7
New Mexico	-4.0	21.5	17.4
New York	-3.7	20.7	17.0
North Carolina	21.3	6.0	27.3
North Dakota	21.9	15.4	37.3
Ohio	0.6	14.6	15.2
Oklahoma	-0.1	12.8	12.7
Oregon	3.7	18.5	22.2
Pennsylvania	8.7	16.5	25.2
Rhode Island	42.4	19.4	61.8
South Carolina	6.5	16.6	23.1
South Dakota	7.0	28.1	35.1
Tennessee	8.2	14.7	22.9
Texas	-0.7	9.4	8.7
Utah	20.3	6.4	26.7
Vermont	31.7	32.1	63.8
Virginia	10.5	19.7	30.3
Washington	-1.8	14.3	12.4
West Virigina	17.3	12.4	29.7
Wisconsin	-2.8	16.2	13.4
Wyoming	-10.4	35.8	25.3

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[1] Includes students enrolled at reporting higher education institution for the first time who graduated from high school within the previous 12 months.

[2] The destination of 9,086 out-migrants—7 migrants per 100 new high school graduates enrolled in higher education—cannot be determined. Thus, the nation as a whole appears to have a surplus of in-migrants but, rather than a real surplus, it is a statistical undercount.

NOTE: This indicator counts the number of students who migrated into or out of a state per 100 new high school graduates enrolled in higher education institutions in that state.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), *Residence of First-time Students* Survey (based on: *State Comparisons of Education Statistics: 1969-70 to 1993-94*, Table 46.

Indicator 7: Average tuition at higher education institutions

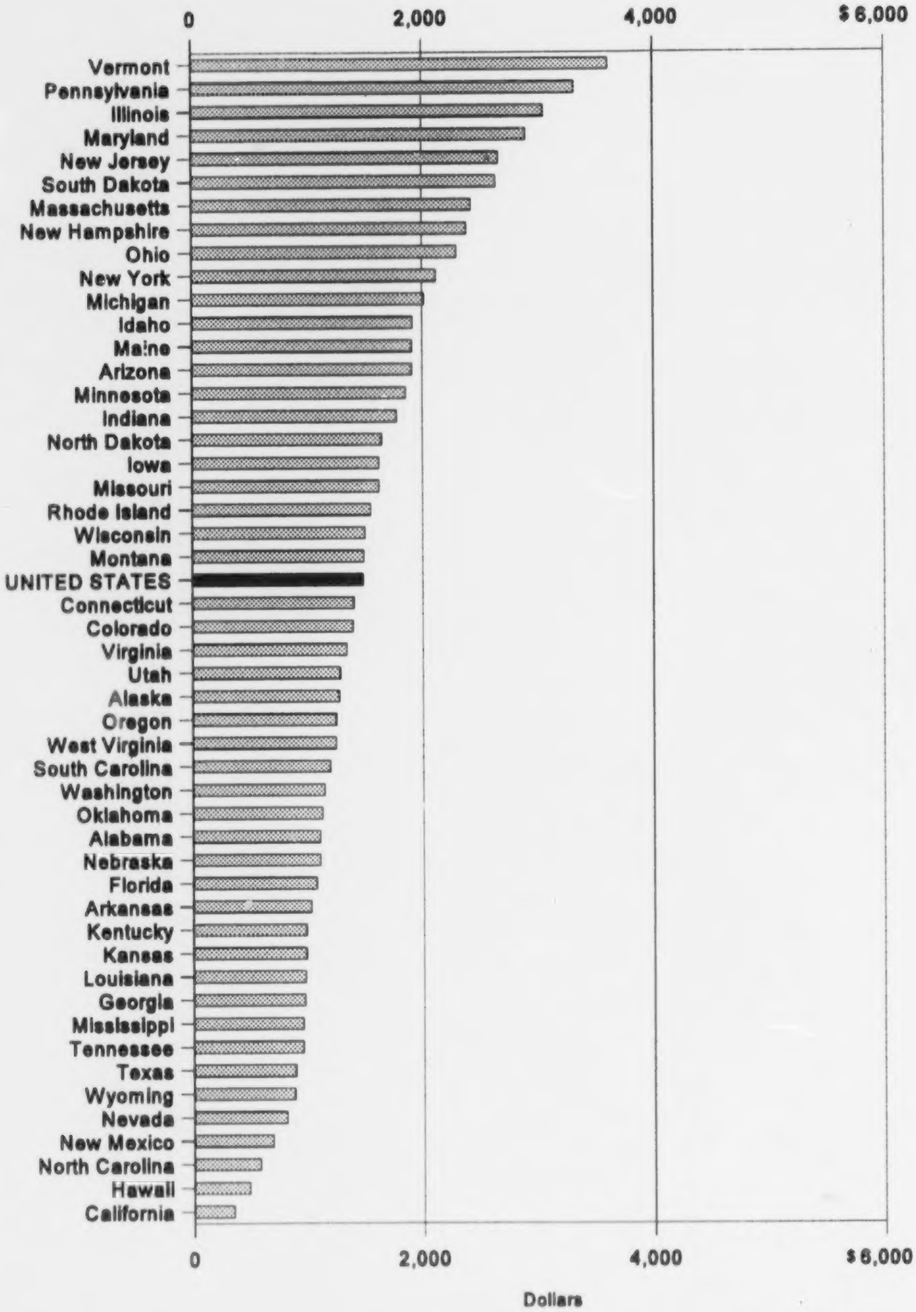
Tuition represents one of the greatest expenses a student incurs while pursuing higher education. As such, it plays a key role in determining the accessibility of higher education to potential students. Tuition also represents one of the major sources of revenue for institutions of higher education. This is particularly true at private institutions where tuition and fees are often the primary source of funding. This indicator measures the average annual tuition and required fees for full-time resident undergraduate students in state higher education institutions, using the average of tuitions and fees from all public institutions across the state weighted by their full-time-equivalent enrollments.

- **In 1993, the average in-state tuition and fees at 2-year public institutions did not exceed $4,000 for any state. In only 3 states did the average public institution tuition and fees exceed $3,000. Fourteen states had average public institution tuition and fees below $1,000.**
- **Whereas the average tuition and fees at 2-year private institutions were less than $4,000 in only 6 states, in 10 states it exceeded $8,000.**
- **Average in-state tuition and fees at 4-year public institutions ranged from just below $1,500 in Hawaii, Idaho, and North Carolina to just above $5,500 in Vermont. Only three states had average in-state tuition and fees above $4,000 at 4-year public institutions.**
- **Twelve states had average tuition and fees at 4-year private institutions above $12,000, whereas Utah was the only state where average tuition and fees were below $4,000.**
- **In no state were the average tuition and fees at private 4-year institutions lower than the average tuition at public 4-year institutions.**

Note on interpretation:

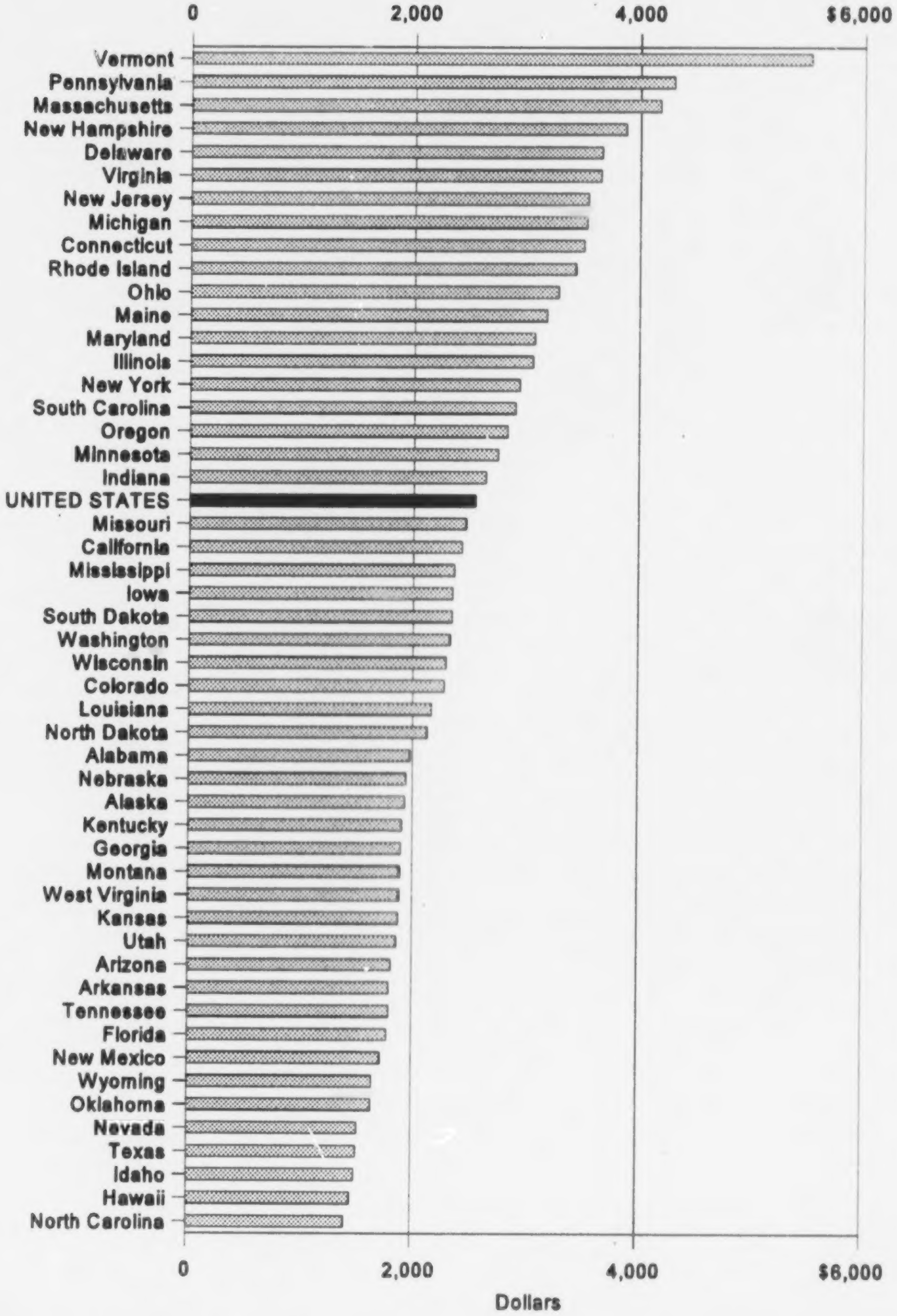
Averages here are calculated over varying numbers of institutions in each category of institution and in each state. In some cases, an average tuition can represent the tuition at a single institution (e.g., average tuition at public two-year higher education institutions in Alaska, South Dakota, and Rhode Island). The numbers of institutions in each category (e.g., public/private, 2-year/4-year, state) are listed in Table 17.

Figure 7a: **Average (in-state) tuition and required fees at public two-year higher education institutions, by state: Academic year 1993–94**



SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), *Institutional Characteristics* survey, 1993–94.

Figure 7b: **Average (in-state) tuition and required fees at public four-year higher education institutions, by state: Academic year 1993–94**



SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), *Institutional Characteristics* survey, 1993-94.

Table 7: Average undergraduate in-state tuition and required fees at higher education institutions, by level of education, control of institution, and state: Academic year 1993–94

State	2-year		4-year	
	Public	Private	Public	Private
UNITED STATES	$1,478	$6,301	$2,551	$11,036
Alabama	1,103	3,642	1,980	6,919
Alaska	1,268	12,703	1,934	7,830
Arizona	1,908	7,754	1,818	5,766
Arkansas	1,021	5,533	1,797	5,743
California	347	8,076	2,435	13,466
Colorado	1,391	6,980	2,282	10,983
Connecticut	1,398	9,221	3,505	15,196
Delaware	—	—	3,661	7,027
District of Columbia	—	—	974	12,751
Florida	1,070	7,095	1,784	9,311
Georgia	967	5,786	1,899	9,106
Hawaii	480	—	1,459	5,278
Idaho	1,915	1,928	1,497	10,129
Illinois	3,052	6,502	3,054	10,565
Indiana	1,775	6,305	2,645	11,238
Iowa	1,622	6,615	2,352	10,938
Kansas	978	5,337	1,877	7,598
Kentucky	978	5,504	1,910	6,490
Louisiana	970	7,055	2,171	11,238
Maine	1,911	4,373	3,180	15,126
Maryland	2,898	9,217	3,071	13,050
Massachusetts	2,426	9,430	4,180	14,948
Michigan	2,012	6,091	3,529	8,616
Minnesota	1,853	6,276	2,748	11,659
Mississippi	952	3,888	2,368	5,992
Missouri	1,621	4,735	2,467	8,743
Montana	1,485	1,271	1,892	6,894
Nebraska	1,101	6,800	1,946	8,476
Nevada	807	—	1,521	7,183
New Hampshire	2,386	5,841	3,875	13,664
New Jersey	2,664	6,982	3,542	12,619
New Mexico	684	6,013	1,723	10,542
New York	2,120	6,012	2,937	12,199
North Carolina	578	5,951	1,408	9,726
North Dakota	1,643	2,100	2,131	6,419
Ohio	2,298	6,164	3,278	11,223
Oklahoma	1,122	5,403	1,646	7,134
Oregon	1,243	8,950	2,832	12,401
Pennsylvania	3,319	6,896	4,304	12,833
Rhode Island	1,546	9,390	3,430	13,656
South Carolina	1,192	5,338	2,901	8,598
South Dakota	2,640	8,995	2,349	8,096
Tennessee	951	5,996	1,796	8,707
Texas	884	7,117	1,510	8,028
Utah	1,279	3,793	1,862	2,661
Vermont	3,612	17,500	5,525	14,472
Virginia	1,336	6,464	3,650	9,762
Washington	1,140	8,049	2,330	11,925
West Virginia	1,242	6,551	1,886	9,433
Wisconsin	1,494	6,529	2,297	10,211
Wyoming	874	9,500	1,648	—

— Not applicable or available.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), *Institutional Characteristics* Survey, 1993–94.

ACHIEVEMENT, ATTAINMENT, AND CURRICULUM

Indicator 8: Reading achievement in fourth grade

A student's ability to read is essential to the education process as a whole. If students fall behind in reading proficiency, they will find it difficult to benefit from all aspects of the curriculum. A poor reader will also find it difficult to participate effectively in an economy requiring increasingly sophisticated job skills. This indicator examines the reading proficiency scores of American fourth-graders, as measured by the National Assessment of Educational Progress (NAEP) in 1992 and 1994.

- **In 1994, average reading proficiency scores of public school fourth-graders were among the highest in Maine, North Dakota, Wisconsin, New Hampshire, Massachusetts, Iowa, Connecticut, and Montana. The average student score in the states where students scored the lowest was similar to that of students scoring at the 25th percentile in these 8 states.**

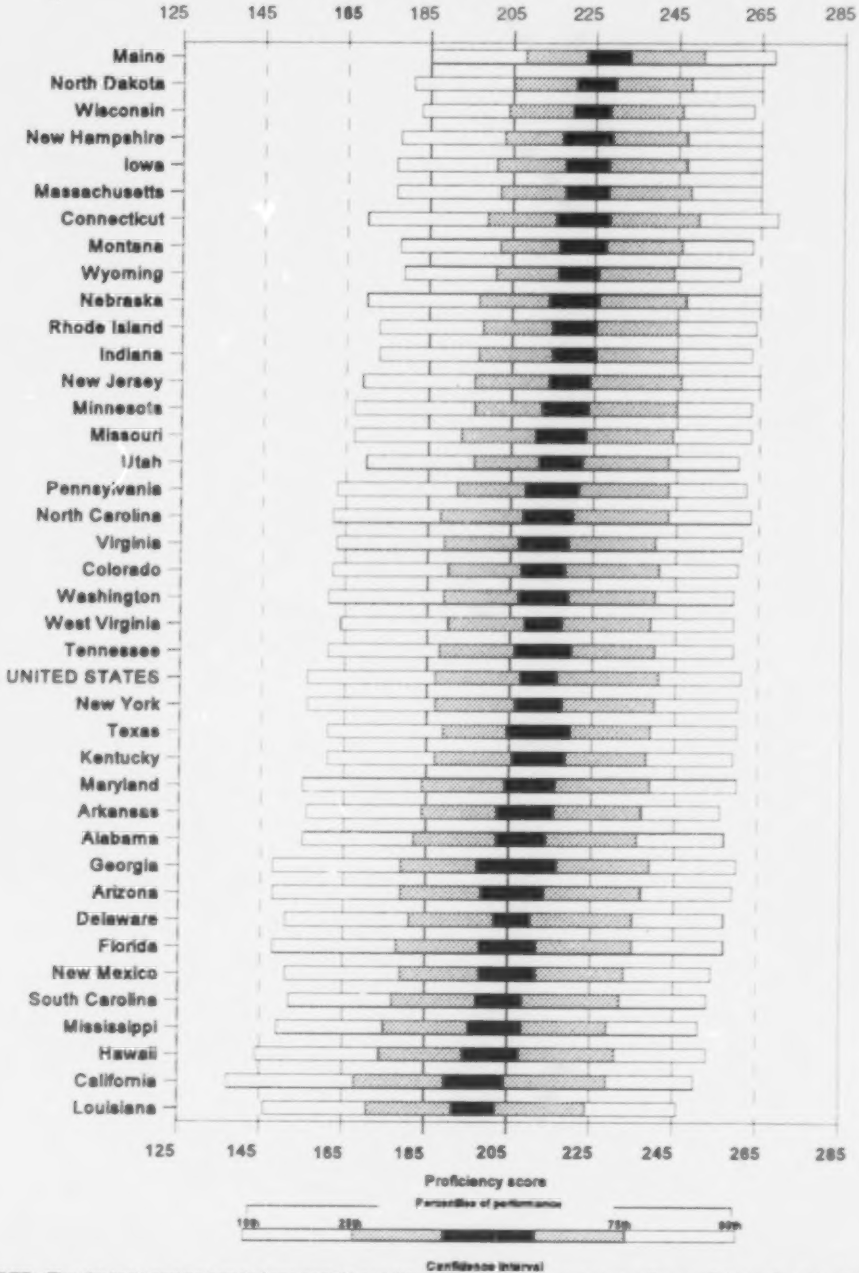
- **Between 1992 and 1994, the average reading proficiency score for public school fourth-graders did not change significantly in most participating states. Fourth-grade students in eight states—Virginia, Louisiana, South Carolina, Delaware, Pennsylvania, New Mexico, New Hampshire, and California—scored significantly lower in 1994 than their 1992 counterparts.**

- **The variation in the average fourth-grade reading proficiency scores across states was much smaller than the typical variation within states. For example, among fourth-grade public-school students, the scale-score difference between the 10th and 90th percentiles within states ranges from 80 to 113 points, compared to a range in average proficiency of 31 scale points between the states.**

Note on interpretation:

Caution should be exercised when comparing states by their rank order on any given test measure. These measures are subject to some sampling error. In comparing two estimates, one must use the standard error of the difference. (See the note on standard errors of estimates on page 214 for details.) See Table 8x in the Statistical Appendix for the standard errors.

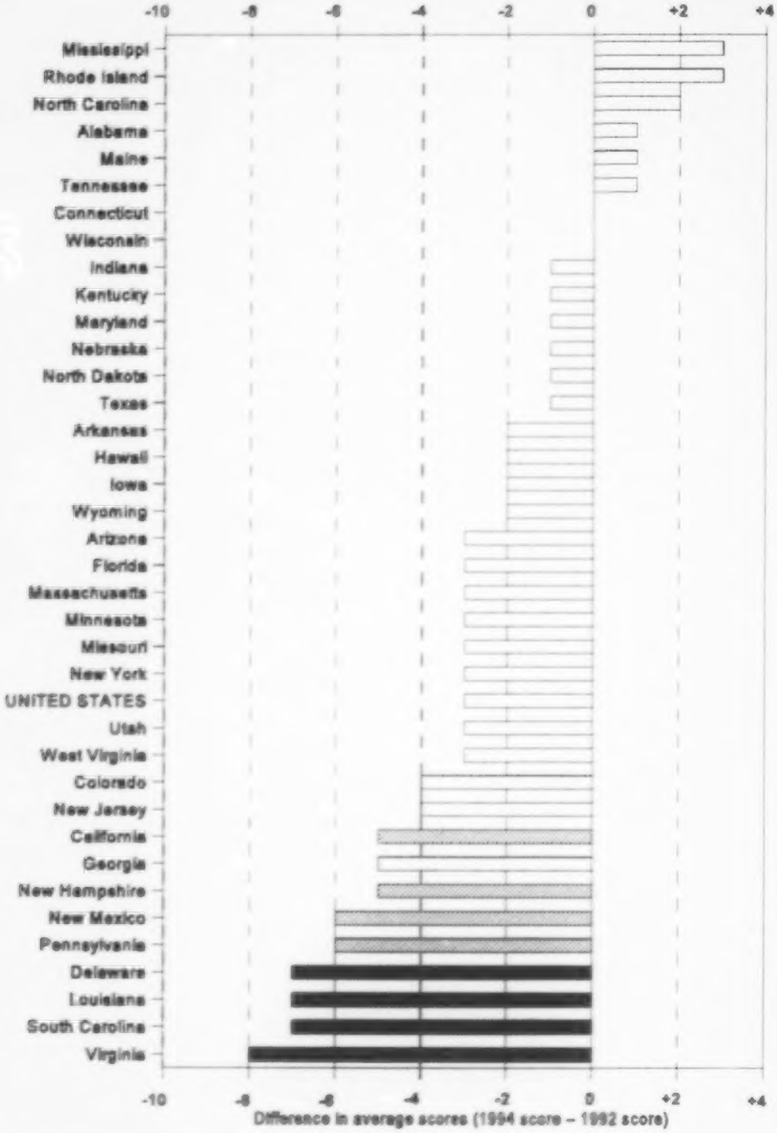
Figure 8a: Reading proficiency scores for public school 4th-grade students, by state: 1994



NOTE: The darkest, center box defines confidence interval around the average reading proficiency for the state, based on the Bonferroni procedure for multiple comparisons. Center boxes that do not overlap indicate significant differences between states in average reading proficiency. The grey boxes indicate the ranges between the 25th and 75th percentiles of the reading proficiency distribution and the white boxes the range between the 10th and 90th percentiles of the distribution. Reading Proficiency Scale has a range from 0 to 500. The states of Alaska, Illinois, Kansas, Nevada, Ohio, Oklahoma, Oregon, South Dakota, and Vermont did not participate in the 1994 NAEP Trial State Assessment,, the source for these data. Idaho and Michigan did not meet minimum participation guidelines.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Cross-State Data Compendium for the NAEP 1994 Grade 4 Reading Assessment*, Table 1.

Figure 8b: Difference between average reading proficiency scores of public school 4th-grade students in 1994 and 1992, by state



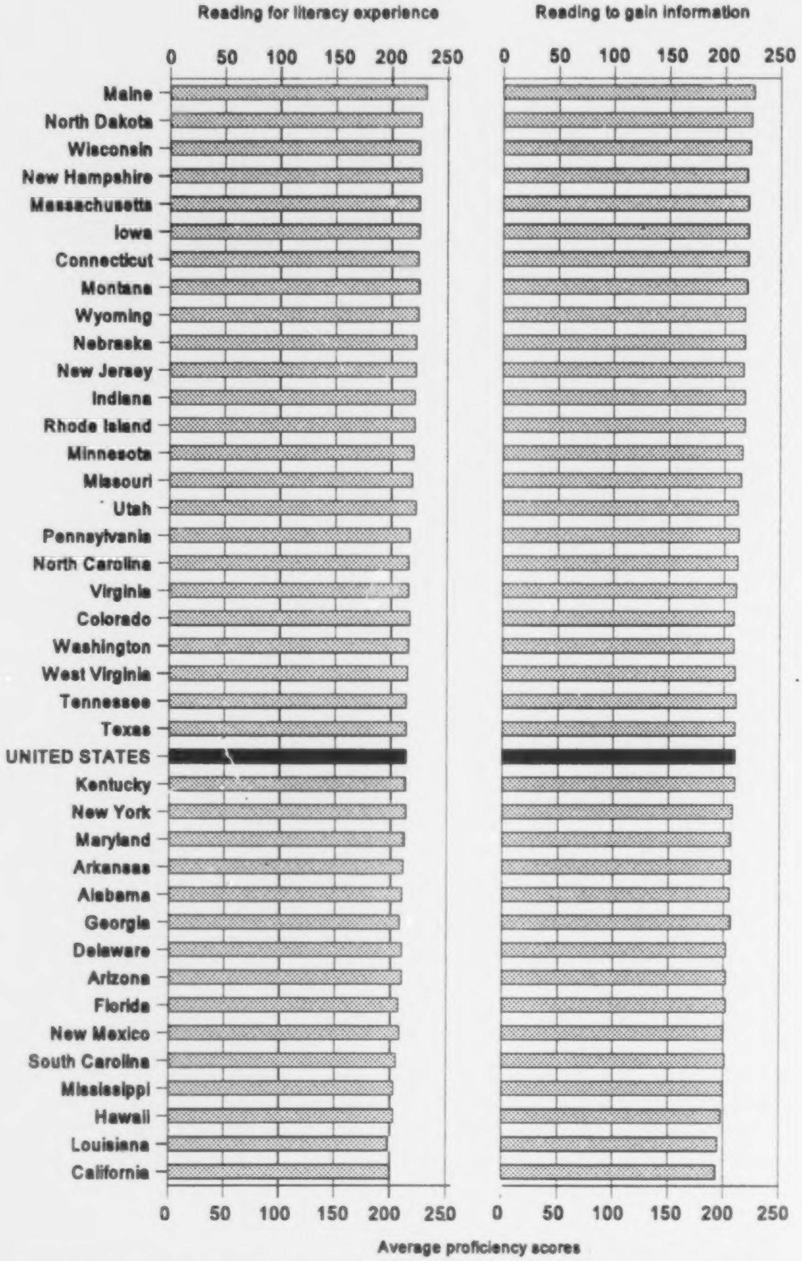
☐ Difference is not statistically significant at the 95 percent confidence level based on a single comparison procedure.

▨ Difference is statistically significant at or about the 95 percent confidence level based on a single comparison procedure.

■ Difference is statistically significant at the 95 percent confidence level based on a multiple comparison procedure involving all 37 states.

NOTE: Proficiency scores range between 0 and 500. The states of Alaska, Illinois, Kansas, Nevada, Ohio, Oklahoma, Oregon, South Dakota, and Vermont did not participate in the 1994 NAEP Trial State Assessment,, the source for these data. Idaho and Michigan did not meet minimum participation guidelines.
SOURCE: U.S. Department of Education, National Center for Education Statistics, *NAEP 1994 Reading: A First Look, Revised Edition*, Table 12.

Figure 8c: Reading proficiency scores for public school 4th-grade students, by purpose for reading and state: 1994



NOTE: Proficiency scores range between 0 and 500. States are ranked from high to low, based on the sum of the two purpose area scores. The states of Alaska, Illinois, Kansas, Nevada, Ohio, Oklahoma, Oregon, South Dakota, and Vermont did not participate in the 1994 NAEP Trial State Assessment,, the source for these data. Idaho and Michigan did not meet minimum participation guidelines.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Cross-State Compendium for the 1994 Reading Assessment*, Table 2.

Table 8a: Reading proficiency scores for fourth-grade students in public schools, by percentile and state: 1994

State	Average proficiency	Percentile score				
		10th	25th	50th	75th	90th
UNITED STATES	**212**	**156**	**187**	**217**	**241**	**261**
Alabama	208	155	182	210	236	257
Arizona	206	148	179	210	237	259
Arkansas	209	156	184	212	237	256
California	197	137	168	201	229	250
Colorado	213	162	190	217	241	260
Connecticut	222	170	199	227	250	269
Delaware	206	151	181	211	235	257
Florida	205	148	178	208	235	257
Georgia	207	148	179	210	239	260
Hawaii	201	144	174	204	231	253
Indiana	220	173	197	223	245	263
Iowa	223	177	201	225	247	265
Kentucky	212	161	187	214	238	259
Louisiana	197	146	171	198	224	246
Maine	228	185	208	231	251	268
Maryland	210	155	184	214	239	260
Massachusetts	223	177	202	226	248	265
Minnesota	218	167	196	223	245	263
Mississippi	202	149	175	203	229	251
Missouri	217	167	193	220	244	263
Montana	222	178	202	225	246	263
Nebraska	220	170	197	224	247	265
New Hampshire	223	178	203	227	247	265
New Jersey	219	169	196	223	246	265
New Mexico	205	151	179	207	233	254
New York	212	156	187	215	240	260
North Carolina	214	162	188	217	243	263
North Dakota	225	181	205	228	248	265
Pennsylvania	215	163	192	220	243	262
Rhode Island	220	173	198	223	245	264
South Carolina	203	152	177	206	232	253
Tennessee	213	161	188	215	240	259
Texas	212	161	189	215	239	260
Utah	217	170	196	221	243	260
Virginia	213	163	189	215	240	261
Washington	213	161	189	216	240	259
West Virginia	213	164	190	215	239	259
Wisconsin	224	183	204	226	246	263
Wyoming	221	179	201	224	244	260

NOTE: The states of Alaska, Illinois, Kansas, Nevada, Ohio, Oklahoma, Oregon, South Dakota and Vermont did not participate in the 1994 NAEP Trial State Assessment, the source for these data. Idaho and Michigan did not meet minimum school participation guidelines. Reading proficiency scale has a range betwen 0 and 500.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Cross-State Data Compendium for the NAEP 1994 Grade 4 Reading Assessment*, Table 1.

Table 8b: Reading proficiency scores for fourth-grade students in public schools in 1992, and the difference between 1992 and 1994 average proficiency, by percentile and state

State	Average proficiency	Percentile score					Difference between 1992 and 1994 fourth grade average proficiency
		10th	25th	50th	75th	90th	
UNITED STATES	**215**	**168**	**192**	**217**	**240**	**259**	**-3**
Alabama	207	160	184	209	232	252	1
Arizona	209	164	187	212	234	252	-3
Arkansas	211	165	188	213	236	254	-2
California	202	148	176	205	231	252	-5
Colorado	217	175	197	219	238	255	-4
Connecticut	222	177	201	225	245	262	0
Delaware	213	167	190	214	237	257	-7
Florida	208	161	185	210	234	252	-3
Georgia	212	164	188	214	238	257	-5
Hawaii	203	155	180	206	229	248	-2
Indiana	221	180	201	223	243	260	-1
Iowa	225	185	206	228	247	263	-2
Kentucky	213	168	191	215	236	253	-1
Louisiana	204	161	181	204	227	245	-7
Maine	227	190	208	228	246	262	1
Maryland	211	162	188	214	237	255	-1
Massachusetts	226	188	207	228	247	263	-3
Minnesota	221	179	200	223	243	260	-3
Mississippi	199	153	176	200	224	244	3
Missouri	220	178	200	222	242	259	-3
Nebraska	221	180	202	223	243	259	-1
New Hampshire	228	189	209	229	248	264	-5
New Jersey	223	179	202	225	247	264	-4
New Mexico	211	166	188	212	235	254	-6
New York	215	167	194	218	240	257	-3
North Carolina	212	163	187	214	238	258	2
North Dakota	226	188	207	227	246	261	-1
Pennsylvania	221	177	200	223	244	261	-6
Rhode Island	217	172	195	219	240	258	3
South Carolina	210	165	187	210	234	254	-7
Tennessee	212	169	190	214	236	254	1
Texas	213	168	190	214	236	255	-1
Utah	220	180	200	223	242	258	-3
Virginia	221	177	200	223	244	261	-8
West Virginia	216	172	195	217	238	257	-3
Wisconsin	224	184	204	225	245	261	0
Wyoming	223	183	204	225	244	260	-2

NOTE: The states of Alaska, Illinois, Kansas, Montana, Nevada, Ohio, Oklahoma, Oregon, South Dakota, Vermont, and Washington did not participate in the 1992 and/or 1994 NAEP Trial State Assessments, the sources for these data. Idaho and Michigan did not meet minimum school participation guidelines in 1994. Reading proficiency scale has a range between 0 and 500.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Cross-State Data Compendium for the NAEP 1994 Grade 4 Reading Assessment*, Table 1.

Table 8c: Reading proficiency scores for fourth-grade students in public schools, by purpose for reading and state: 1994

State	Reading for literary experience	Reading to gain information
UNITED STATES	**214**	**210**
Alabama	210	205
Arizona	210	202
Arkansas	211	206
California	200	193
Colorado	217	209
Connecticut	224	221
Delaware	210	202
Florida	207	202
Georgia	208	206
Hawaii	203	198
Indiana	221	218
Iowa	225	221
Kentucky	213	210
Louisiana	198	195
Maine	231	226
Maryland	212	206
Massachusetts	225	221
Minnesota	220	216
Mississippi	203	200
Missouri	219	215
Montana	225	220
Nebraska	222	218
New Hampshire	226	220
New Jersey	222	217
New Mexico	208	200
New York	214	208
North Carolina	216	212
North Dakota	226	224
Pennsylvania	217	213
Rhode Island	221	218
South Carolina	205	201
Tennessee	214	211
Texas	214	210
Utah	222	212
Virginia	216	211
Washington	216	209
West Virginia	215	210
Wisconsin	225	223
Wyoming	224	218

NOTE: The states of Alaska, Illinois, Kansas, Nevada, Ohio, Oklahoma, Oregon, South Dakota, and Vermont did not participate in the 1994 NAEP Trial State Assessment, the source for these data. Idaho and Michigan did not meet minimum school participation guidelines. Reading proficiency scale has a range between 0 and 500.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Cross-State Data Compendium for the NAEP 1994 Grade 4 Reading Assessment*, Table 2.

Indicator 9: Mathematics achievement in eighth grade

Goal 5 of the National Education Goals states that by the year 2000, U.S. students will be first in the world in science and mathematics achievement. This goal is based on the belief that our nation's ability to compete globally rests on workers having strong science and mathematics skills and on their ability to apply those skills to emerging technologies. In as few as 5 years from now, the eighth graders of today will be competing in the global marketplace. They will depend on the mathematics skills they learned in school to succeed in the complex business and technological environment of the future. This indicator reports eighth-grade students' mathematics proficiency, as measured by the National Assessment of Educational Progress (NAEP) in 1996, 1992 and 1990.

- **In 1996, average mathematics proficiency scores of public school eighth-grade students were among the highest in North Dakota, Maine, Minnesota, Iowa, Montana, Wisconsin, and Nebraska.**

- **Between 1992 and 1996, the average mathematics proficiency score for eighth graders increased in 13 states when measured by a multiple comparison procedure involving all 35 states that participated in both the 1992 and 1996 NAEP assessments. The average mathematics proficiency score for eighth graders increased in 18 states and decreased in none when measured by a single comparison procedure.**

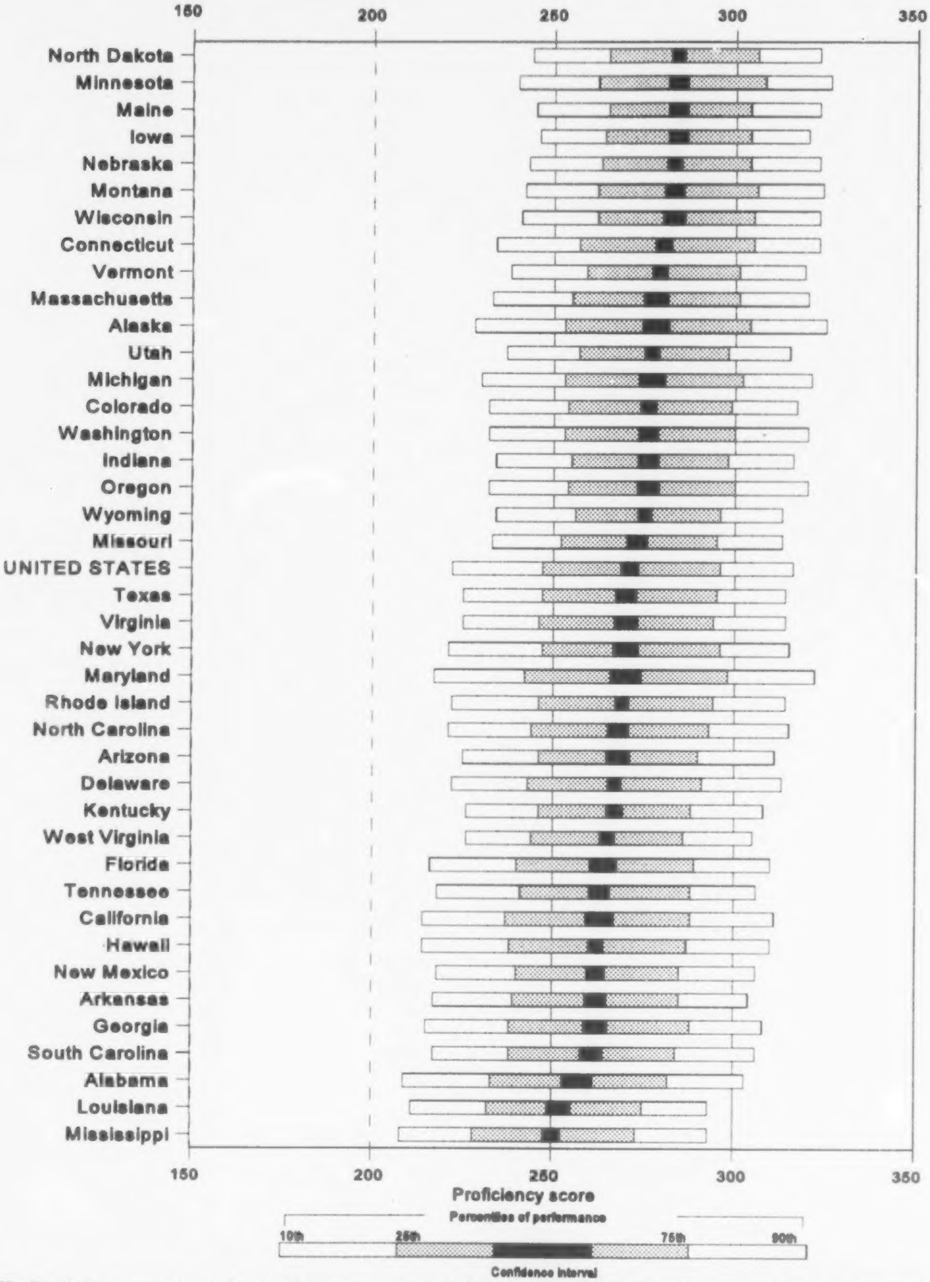
- **Between 1990 and 1996, the average mathematics proficiency score for eighth graders increased in 26 states when measured by a multiple comparison procedure involving all 30 states that participated in both the 1990 and 1996 NAEP assessments. The average mathematics proficiency score for eighth graders increased in 27 states and decreased in none when measured by a single comparison procedure.**

- **In a certain respect, the variation in average mathematics proficiency of students within states was greater than that across states in the 1996 assessment. For example, among eighth-grade public school students the difference between the 10th and 90th percentile was 79 scale points in North Dakota, compared to a difference in average proficiency of 34 scale points between students in North Dakota and Mississippi.**

Note on interpretation:

Caution should be exercised when comparing states by their rank order on any given test measure. These measures are subject to sampling error. In comparing two estimates, one must use the standard error of the difference. (See the note on standard errors of estimates on page 214 for details.) See Table 9x in the Statistical Appendix for the standard errors.

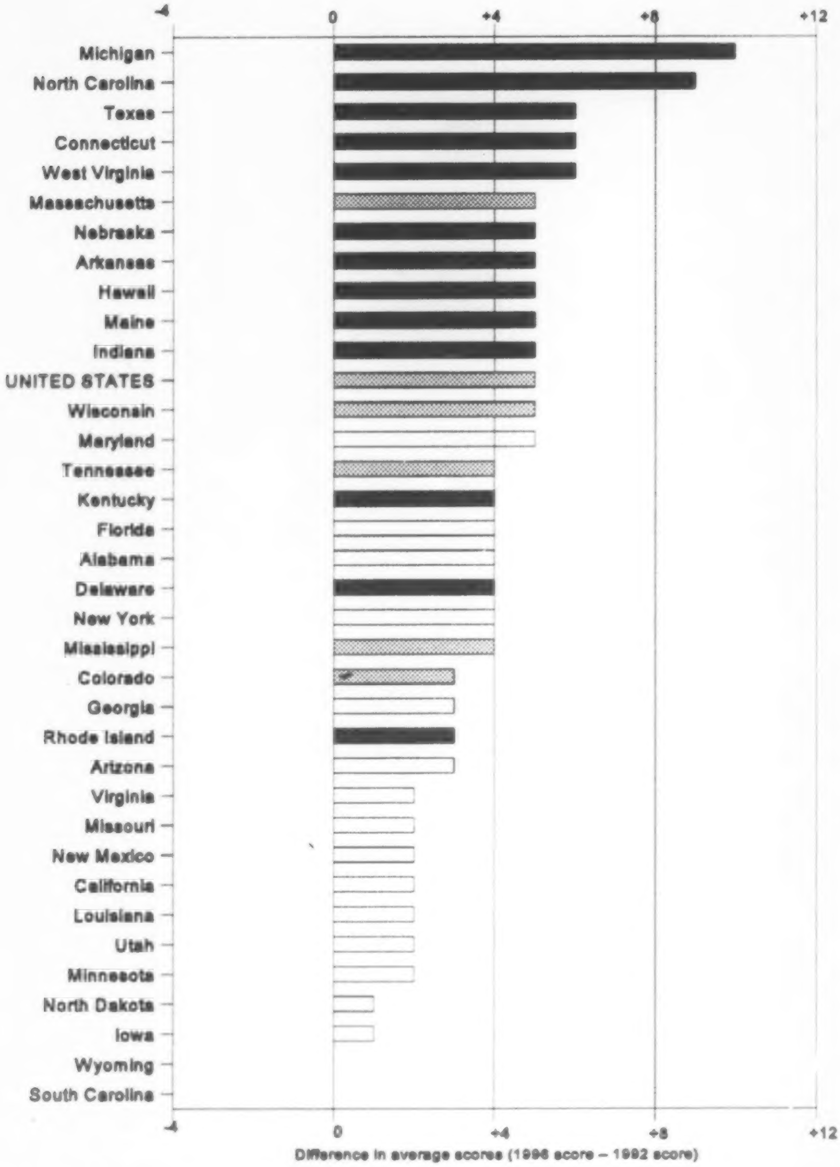
Figure 9a: Mathematics proficiency scores for public school eighth-grade students, by state: 1996



NOTE: The darkest, center box defines confidence interval around the average mathematics proficiency for the state, based on the Bonferroni procedure for multiple comparisons. Center boxes that do not overlap indicate significant differences between states in average mathematics proficiency. The grey boxes indicate the ranges between the 25th and 75th percentiles of the mathematics proficiency distribution and the white boxes the ranges between the 10th and 90th percentiles of the distribution. Mathematics Proficiency Scale has a range from 0 to 500. The states of Idaho, Illinois, Kansas, Ohio, Oklahoma, Pennsylvania, and South Dakota did not participate in the NAEP 1996 Eighth-grade Trial State Assessment, the source for these data. Nevada, New Hampshire, and New Jersey did not meet minimum participation guidelines.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, 1996, unpublished tabulations.

Figure 9b: Difference between average mathematics proficiency scores of public school eighth-grade students in 1992 and 1996, by state

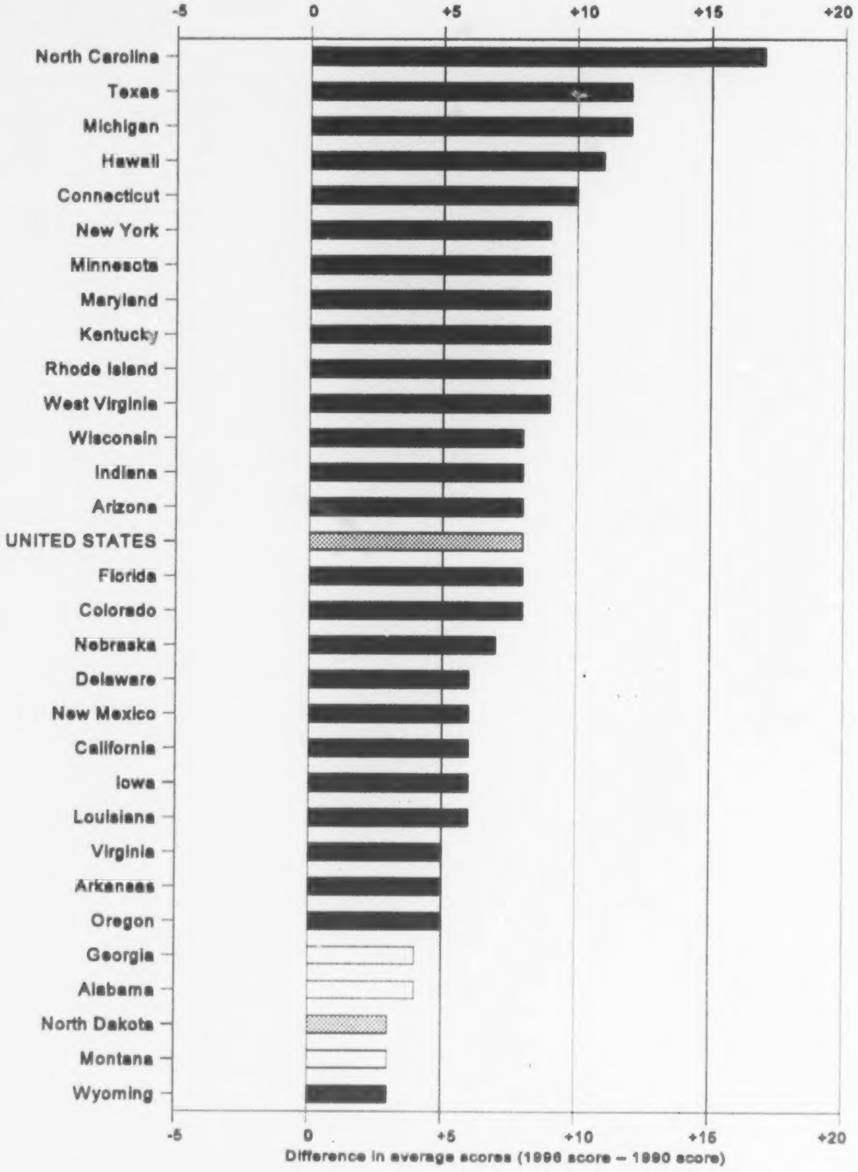


☐ Difference is not statistically significant at the 95 percent confidence level based on a single comparison procedure.
▨ Difference is statistically significant at the 95 percent confidence level based on a single comparison procedure.
■ Difference is statistically significant at the 95 percent confidence level based on a multiple comparison procedure involving all 35 states.

NOTE: Mathematics proficiency scale has a range from 0 to 500. The states of Alaska, Idaho, Illinois, Kansas, Montana, Nevada, Ohio, Oklahoma, Oregon, Pennsylvania, South Dakota, Vermont, and Washington did not participate in one or both of the 1992 and 1996 eighth-grade Trial State Assessments in mathematics, the sources for these data. The states of New Hampshire, New Jersey, and Nevada failed to meet minimum school participation requirements of 70 percent in 1996.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *NAEP 1996 Mathematics Report Card for the Nation and the States: Findings from the National Assessment of Educational Progress*, 1997, Table 2.3.

Figure 9c: Difference between average mathematics proficiency scores of public school eighth-grade students in 1990 and 1996, by state



☐ Difference is not statistically significant at the 95 percent confidence level based on a single comparison procedure.
▨ Difference is statistically significant at the 95 percent confidence level based on a single comparison procedure.
■ Difference is statistically significant at the 95 percent confidence level based on a multiple comparison procedure involving all 30 states.

NOTE: Mathematics proficiency scale has a range from 0 to 500. The states of Alaska, Idaho, Illinois, Kansas, Maine, Massachusetts, Mississippi, Missouri, Ohio, Oklahoma, Pennsylvania, South Carolina, South Dakota, Tennessee, Utah, Vermont, and Washington did not participate in one or both of the 1990 and 1996 eighth-grade Trial State Assessments in mathematics, the sources for these data. The states of New Hampshire, New Jersey, and Nevada failed to meet minimum school participation requirements of 70 percent in 1996.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *NAEP 1996 Mathematics Report Card for the Nation and the States: Findings from the National Assessment of Educational Progress*, 1997, Table 2.3.

Table 9a: Mathematics proficiency scores for eighth-grade students in public schools, by state: 1996

State	Average proficiency	Percentile score				
		10th	25th	50th	75th	90th
UNITED STATES	**271**	**222**	**247**	**272**	**296**	**316**
Alabama	257	209	233	258	282	303
Alaska*	278	228	253	280	304	325
Arizona	268	225	246	268	290	311
Arkansas*	262	217	239	264	285	304
California	263	214	237	263	288	311
Colorado	276	232	254	277	299	317
Connecticut	280	234	257	281	305	323
Delaware	267	222	243	266	291	313
District of Columbia	233	187	207	232	255	281
Florida	264	216	240	265	289	310
Georgia	262	215	238	263	288	308
Hawaii	262	214	238	263	287	310
Indiana	276	234	255	276	298	316
Iowa*	284	246	264	285	304	320
Kentucky	267	226	246	266	288	308
Louisiana	252	211	232	253	275	293
Maine	284	245	265	284	304	323
Maryland*	270	217	242	270	298	322
Massachusetts	278	233	255	279	301	320
Michigan*	277	230	253	279	302	321
Minnesota	284	240	262	285	308	326
Mississippi	250	208	228	250	273	293
Missouri	273	233	252	274	295	313
Montana*	283	242	262	285	306	324
Nebraska	283	243	263	283	304	323
New Mexico	262	218	240	263	285	306
New York*	270	221	247	272	296	315
North Carolina	268	221	244	268	293	315
North Dakota	284	244	265	286	306	323
Oregon	276	232	254	277	300	320
Rhode Island	269	222	246	271	294	314
South Carolina*	261	217	238	261	284	306
Tennessee	263	218	241	265	288	306
Texas	270	225	247	271	295	314
Utah	277	237	257	278	298	315
Vermont*	279	238	259	280	301	319
Virginia	270	225	246	270	294	314
Washington	276	232	253	278	300	320
West Virginia	265	226	244	265	286	305
Wisconsin*	283	241	262	284	305	323
Wyoming	275	234	256	276	296	313

*State did not satisfy one or more of the guidelines for school participation rates in 1996. Nevada, New Hampshire, and New Jersey did not meet minimum participation guidelines.

NOTE: The states of Idaho, Illinois, Kansas, Ohio, Oklahoma, Pennsylvania, and South Dakota did not participate in the NAEP 1996 Eighth-grade Trial State Assessment, the source for these data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, 1996, unpublished tabulations.

Table 9b: Difference between average mathematics proficiency for eighth-grade students in public schools in 1996 and 1992 or 1990, by state

State	Average proficiency in 1996	Difference between 1992 and 1996 average proficiency	Difference between 1990 and 1996 average proficiency
UNITED STATES	**271**	**5**	**8**
Alabama	257	4	4
Alaska*	278	—	—
Arizona*	268	3	8
Arkansas	262	5	5
California	263	2	6
Colorado	276	3	8
Connecticut	280	6	10
Delaware	267	4	6
District of Columbia	233	-2	1
Florida	264	4	8
Georgia	262	3	4
Hawaii	262	5	11
Indiana	276	5	8
Iowa*	284	1	6
Kentucky	267	4	9
Louisiana	252	2	6
Maine	284	5	—
Maryland	270	5	9
Massachusetts	278	5	—
Michigan*	277	10	12
Minnesota	284	2	9
Mississippi	250	4	—
Missouri	273	2	—
Montana*	283	—	3
Nebraska	283	5	7
Nevada*	—	—	—
New Hampshire*	—	—	—
New Jersey*	—	—	—
New Mexico	262	2	6
New York*	270	4	9
North Carolina	268	9	17
North Dakota	284	1	3
Oregon	276	—	5
Rhode Island	269	3	9
South Carolina*	261	0	—
Tennessee	263	4	—
Texas	270	6	12
Utah	277	2	—
Vermont*	279	—	—
Virginia	270	2	5
Washington	276	—	—
West Virginia	265	6	9
Wisconsin	283	5	8
Wyoming	275	0	3

— State did not participate in the assessment in one or more years. Nevada, New Hampshire, and New Jersey did not meet minimum participation guidelines.

* State did not satisfy one or more of the guidelines for school participation rates in 1996.

NOTE: The states of Idaho, Illinois, Kansas, Ohio, Oklahoma, Pennsylvania, and South Dakota did not participate in the NAEP 1996 Eighth-grade Trial State Assessment, the source for these data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *NAEP 1996 Mathematics Report Card for the Nation and the States: Findings from the National Assessment of Educational Progress*, 1997, Table 2.3.

Indicator 10: Mathematics achievement in fourth grade and difference between the fourth and eighth grades

Learning mathematics is an incremental process in which more complex concepts are mastered through the application of knowledge learned previously. In order to be successful at higher levels of mathematics, it is crucial that students form an adequate base of fundamental skills and principles as a foundation for later learning. Mathematics proficiency at the 4th-grade level provides an estimate of this foundation and can be compared to mathematics proficiency at the 8th-grade level in order to determine the theoretical progress of students as the focus of mathematics shifts from simple arithmetic and elementary relationships to more advanced topics such as algebra and geometry. This indicator reports fourth-grade students' mathematics proficiency, as measured by the National Assessment of Educational Progress (NAEP) in 1996, the difference between fourth-grade students' proficiency in 1992 and 1996, and the difference between fourth- and eighth-grade scores on the NAEP in 1996.

- **In 1996, average mathematics proficiency scores among fourth-grade public school students were among the highest in Maine, Minnesota, Connecticut, Wisconsin, and North Dakota. The average student score in the state where students scored the lowest in mathematics proficiency was similar to that of students scoring at the 25th percentile in over half of the participating states.**

- **Between 1992 and 1996, the average mathematics proficiency score for fourth graders increased in 14 states and decreased in 2 when measured by a multiple comparison procedure involving all 37 states that participated in both the 1992 and 1996 NAEP assessments.**

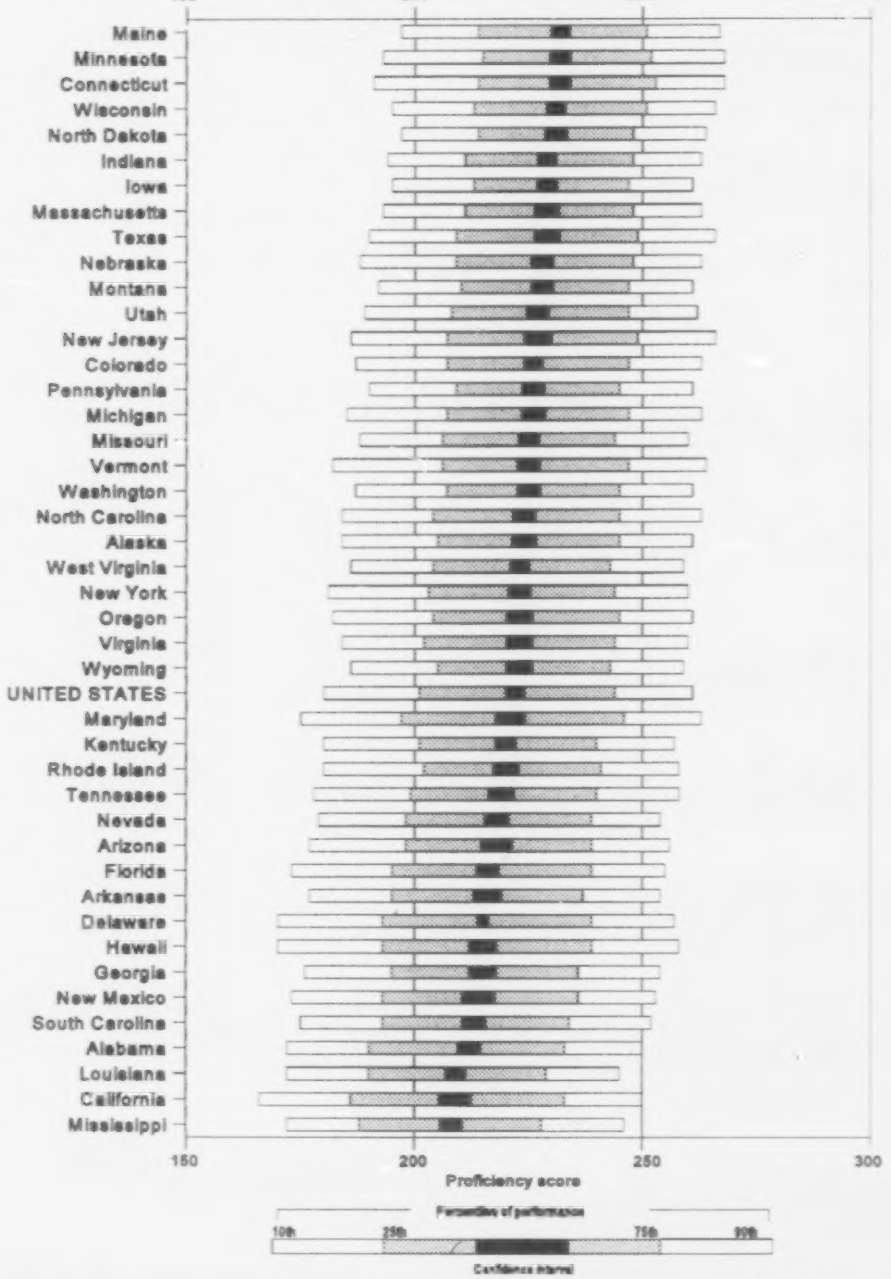
- **Eighth-grade public school students in all participating states averaged at least 40 scale points higher in mathematics proficiency than their fourth-grade counterparts. The difference in performance between grades was similar across states. Fourteen scale points separated the state with the smallest difference from that with the largest, which is much smaller than the difference in average proficiency between the highest- and lowest-scoring states in either of the mathematics assessments, grades 4 or 8.**

Notes on interpretation:

The NAEP mathematics test is administered in a given year to students in both the 4th and 8th grades. Consequently, the results for 4th- and 8th-graders in 1996 are not for the same group of students tested 4 years apart, but for two separate groups of students tested at different grade levels in the same year.

Caution should be exercised when comparing states by their rank order on any given test measure. These measures are subject to some sampling error. In comparing two estimates, one must use the standard error of the difference. (See the note on standard errors of estimates on page 214 for details.) See Tables 10ax and 10bx in the Statistical Appendix for the standard errors.

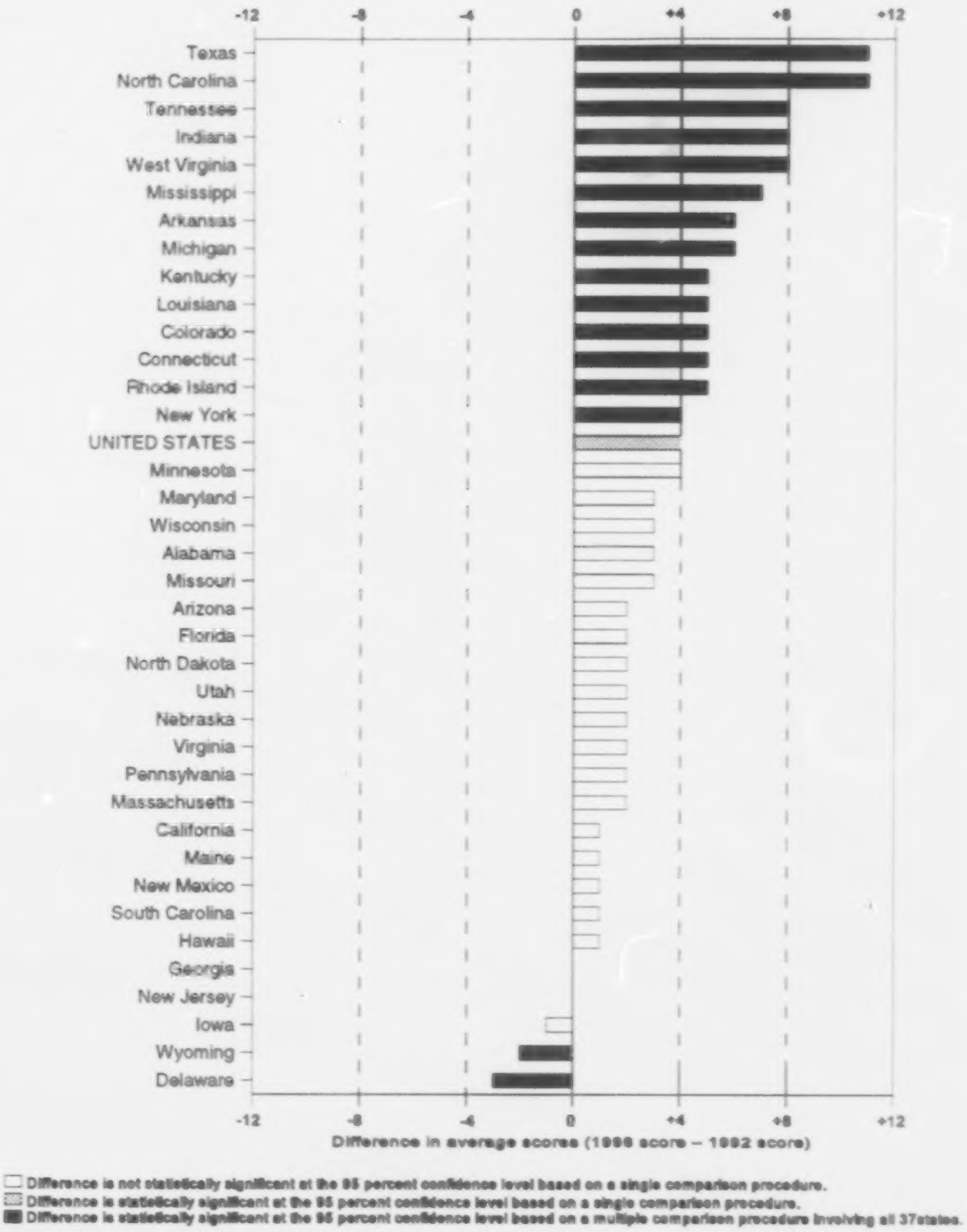
Figure 10a: Mathematics proficiency scores for public school fourth-grade students, by state: 1996



NOTE: The darkest, center box defines confidence interval around the average mathematics proficiency for the state, based on the Bonferroni procedure for multiple comparisons. Center boxes that do not overlap indicate significant differences between states in average mathematics proficiency. The grey boxes indicate the ranges between the 25th and 75th percentiles of the mathematics proficiency distribution and the white boxes the ranges between the 10th and 90th percentiles of the distribution. Mathematics Proficiency Scale has a range from 0 to 500. The states of Idaho, Illinois, Kansas,New Hampshire, Ohio, Oklahoma, and South Dakota did not participate in the NAEP 1996 Fourth-grade Trial State Assessment.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Eductional Progress, 1996; unpublished tabliulations.

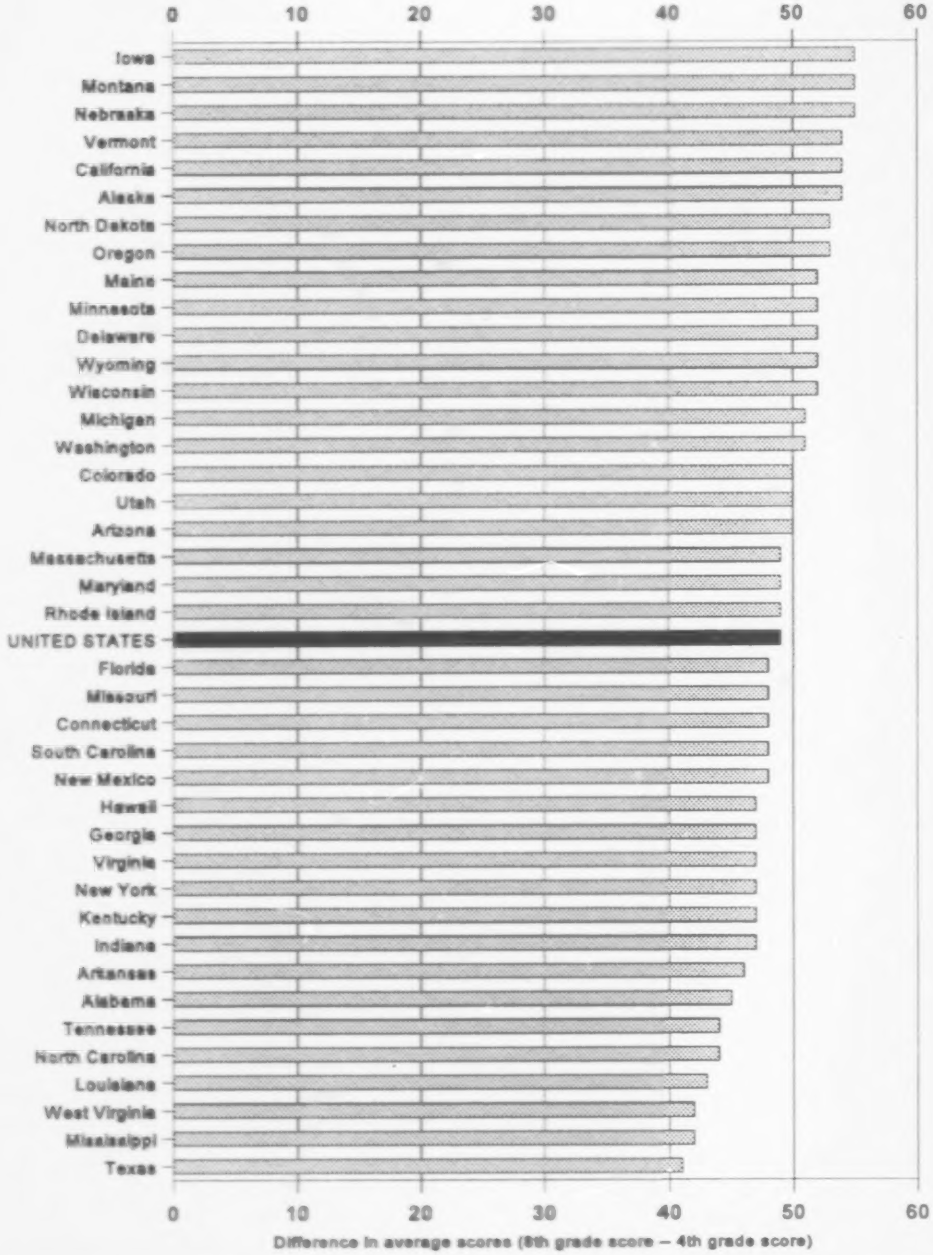
Figure 10b: Difference between average mathematics proficiency scores of public school fourth-grade students in 1992 and 1996, by state



NOTE: Mathematics proficiency scale has a range from 0 to 500. The states of Alaska, Idaho, Illinois, Kansas, Montana, Nevada, New Hampshire, Ohio, Oklahoma, Oregon, South Dakota, Vermont, and Washington did not participate in one or both of the 1992 and 1996 fourth-grade Trial State Assessments in mathematics, the sources for these data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *NAEP 1996 Mathematics Report Card for the Nation and the States: Findings from the National Assessment of Educational Progress*, 1997, Table 2.2.

Figure 10c: Difference between average mathematics proficiency scores of public school eighth-grade students and fourth-grade students, by state: 1996



NOTE: The states of Idaho, Illinois, Kansas, New Hampshire, Ohio, Oklahoma, and South Dakota did not participate in the NAEP 1996 Fourth-grade Trial State Assessment. The states of Idaho, Illinois, Kansas, Ohio, Oklahoma, Pennsylvania, and South Dakota did not participate in the NAEP 1996 Eighth-grade Trial State Assessment; Nevada, New Hampshire, and New Jersey did not meet minimum participation guidelines.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, 1996, unpublished tabulations.

Table 10a: Mathematics proficiency scores for fourth-grade students in public schools, by state: 1996

		Percentile score				
State	Average proficiency	10th	25th	50th	75th	90th
UNITED STATES	**222**	**180**	**201**	**224**	**244**	**261**
Alabama	212	172	190	212	233	250
Alaska*	224	184	205	225	245	261
Arizona*	218	177	198	219	239	256
Arkansas	216	177	195	217	237	254
California	209	166	186	210	233	250
Colorado	226	187	207	227	247	263
Connecticut	232	191	214	235	253	268
Delaware	215	170	193	217	239	257
District of Columbia	187	144	164	186	208	232
Florida	216	173	195	218	239	255
Georgia	215	176	195	216	236	254
Hawaii	215	170	193	217	239	258
Indiana	229	194	211	230	248	263
Iowa*	229	195	213	231	247	261
Kentucky	220	180	201	222	240	257
Louisiana	209	172	190	209	229	245
Maine	232	197	214	233	251	267
Maryland	221	175	197	222	246	263
Massachusetts	229	193	211	230	248	263
Michigan*	226	185	207	228	247	263
Minnesota	232	193	215	234	252	268
Mississippi	208	172	188	208	228	246
Missouri	225	188	206	226	244	260
Montana*	228	192	210	229	247	261
Nebraska	228	188	209	230	248	263
Nevada*	218	179	198	219	239	254
New Jersey*	227	186	207	229	249	266
New Mexico	214	173	193	215	236	253
New York*	223	181	203	225	244	260
North Carolina	224	184	204	225	245	263
North Dakota	231	197	214	232	248	264
Oregon	223	182	204	226	245	261
Pennsylvania*	226	190	209	228	245	261
Rhode Island	220	180	202	222	241	258
South Carolina*	213	175	193	213	234	252
Tennessee	219	178	199	221	240	258
Texas	229	190	209	230	249	266
Utah	227	189	208	228	247	262
Vermont*	225	182	206	227	247	264
Virginia	223	184	202	224	244	260
Washington	225	187	207	226	245	261
West Virginia	223	186	204	224	243	259
Wisconsin	231	195	213	233	251	266
Wyoming	223	186	205	225	243	259

*State did not satisfy one or more of the guidelines for school participation rates in 1996.

NOTE: The states of Idaho, Illinois, Kansas, New Hampshire, Ohio, Oklahoma, and South Dakota did not participate in the NAEP 1996 Fourth-grade Trial State Assessment, the source for these data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, 1996, unpublished tabulations.

Table 10b: Difference between average mathematics proficiency for fourth-grade students in public schools in 1996 and 1992 and for fourth- and eighth-grade students in 1996, by state

State	Average proficiency in 1996	Difference between 1992 and 1996 average proficiency	Difference between fourth- and eighth-grade average proficiency in 1996
UNITED STATES	**222**	**4**	**49**
Alabama	212	3	45
Alaska*	224	—	54
Arizona*	218	2	50
Arkansas	216	6	46
California	209	1	54
Colorado	226	5	50
Connecticut	232	5	48
Delaware	215	-3	52
District of Columbia	187	-5	18
Florida	216	2	48
Georgia	215	0	47
Hawaii	215	1	47
Indiana	229	8	47
Iowa*	229	-1	55
Kentucky	220	5	47
Louisiana	209	5	43
Maine	232	1	52
Maryland	221	3	49
Massachusetts	229	2	49
Michigan*	227	6	51
Minnesota	232	4	52
Mississippi	208	7	42
Missouri	225	3	48
Montana*	228	—	55
Nebraska	229	2	55
Nevada*	218	—	—
New Jersey*	228	0	—
New Mexico	214	1	48
New York*	223	4	47
North Carolina	225	11	44
North Dakota	231	2	53
Oregon	224	—	53
Pennsylvania*	226	2	—
Rhode Island	220	5	49
South Carolina*	213	1	48
Tennessee	219	8	44
Texas	229	11	41
Utah	227	2	50
Vermont*	225	—	54
Virginia	223	2	47
Washington	226	—	51
West Virginia	223	8	42
Wisconsin	231	3	52
Wyoming	223	-2	52

— State did not participate in the assessment in one or more years.
*State did not satisfy one or more of the guidelines for school participation rates in 1996.
NOTE: The states of Idaho, Illinois, Kansas, New Hampshire, Ohio, Oklahoma, and South Dakota did not participate in the NAEP1996 Fourth-grade Trial State Assessment, the primary source for these data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *NAEP 1996 Mathematics Report Card for the Nation and the States: Findings from the National Assessment of Educational Progress*, 1997, Table 2.2; unpublished tabulations.

Indicator 11: Advanced Placement programs and examinations

The Advanced Placement (AP) examinations are offered annually to give high school students the opportunity to demonstrate college-level achievement in various subject areas. Generally, students take AP examinations in the 11th and 12th grades, and a student may take multiple AP examinations to demonstrate proficiency in several subject areas. Most of the examinations consist of multiple-choice and free-response sections and are graded on a scale of 1 to 5, with grades of 3 and above usually accepted for college credit and advanced placement at participating colleges and universities. The number of AP exams taken is, thus, a measure of the frequency with which students challenge themselves with advanced coursework. During the twelve-year period between 1984 and 1995, the rate of taking AP examinations in the United States increased nearly 300 percent, from 43 to 122 examinations per 1,000 11th and 12th graders, and the percentage of schools with 11th and 12th grades offering AP programs nearly doubled during that time, rising from 27 to 50 percent.

- **In 1995 in over half of the states, 50 percent or more of high schools offered AP programs. In three states—New Jersey, Massachusetts, and Connecticut—more than 75 percent of schools offered AP programs. In only six states did fewer than 25 percent of schools offer AP programs.**

- **In eight states, more than 170 AP examinations were given per 1,000 11th and 12th graders, with over 200 examinations taken in Utah and Virginia.**

- **In 11 states, fewer than 50 AP examinations were given per 1,000 11th and 12th graders. In North Dakota, the state where the fewest examinations were taken, about one tenth as many examinations were taken per 1,000 11th and 12th graders as in either Utah or Virginia.**

- **In all of the 11 states in which 30 percent or fewer schools participated in the AP program, except Alaska, fewer than 50 examinations were taken per 1,000 11th and 12th graders. Only 12 percent of Alaska's schools offered an AP program, yet 91 exams were taken per 1,000 11th and 12th graders in that state.**

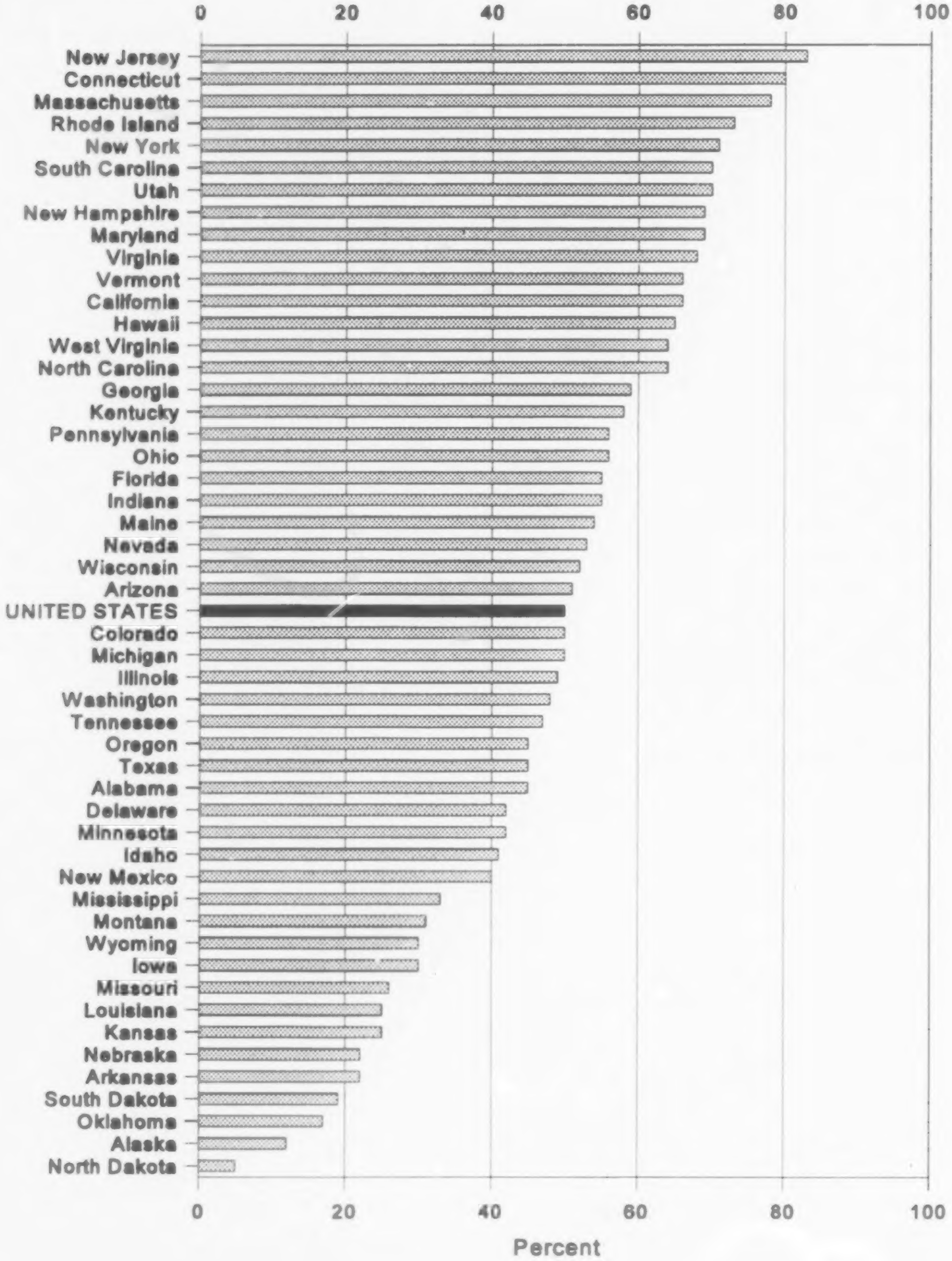
Note on interpretation:

A high school has an "AP Program" if the principal has signed an agreement stating that the school will: have an AP coordinator; prepare students for the examination; and offer AP courses. In small schools and for unpopular AP exams, an "AP course" may consist of an independent study course with one or a few students under the general supervision of an interested faculty member.

The "market" for advanced placement tests has been dominated to date by one testing firm, Educational Testing Service, though another firm, American College Testing, is now administering advanced placement tests in some subject areas. In addition, several states administer their own system of subject-area advanced tests for high school students. High scores on these tests can, in some cases, garner college-level credit for the successful students at their state universities.

Statistical information on patterns of taking high school advanced courses (advanced in the difficulty of the subject matter, but not necessarily offering advanced placement) in some subjects by state can be found in a periodic report of the Council of Chief State School Officers (CCSSO), entitled *State Indicators of Science and Mathematics Education.*

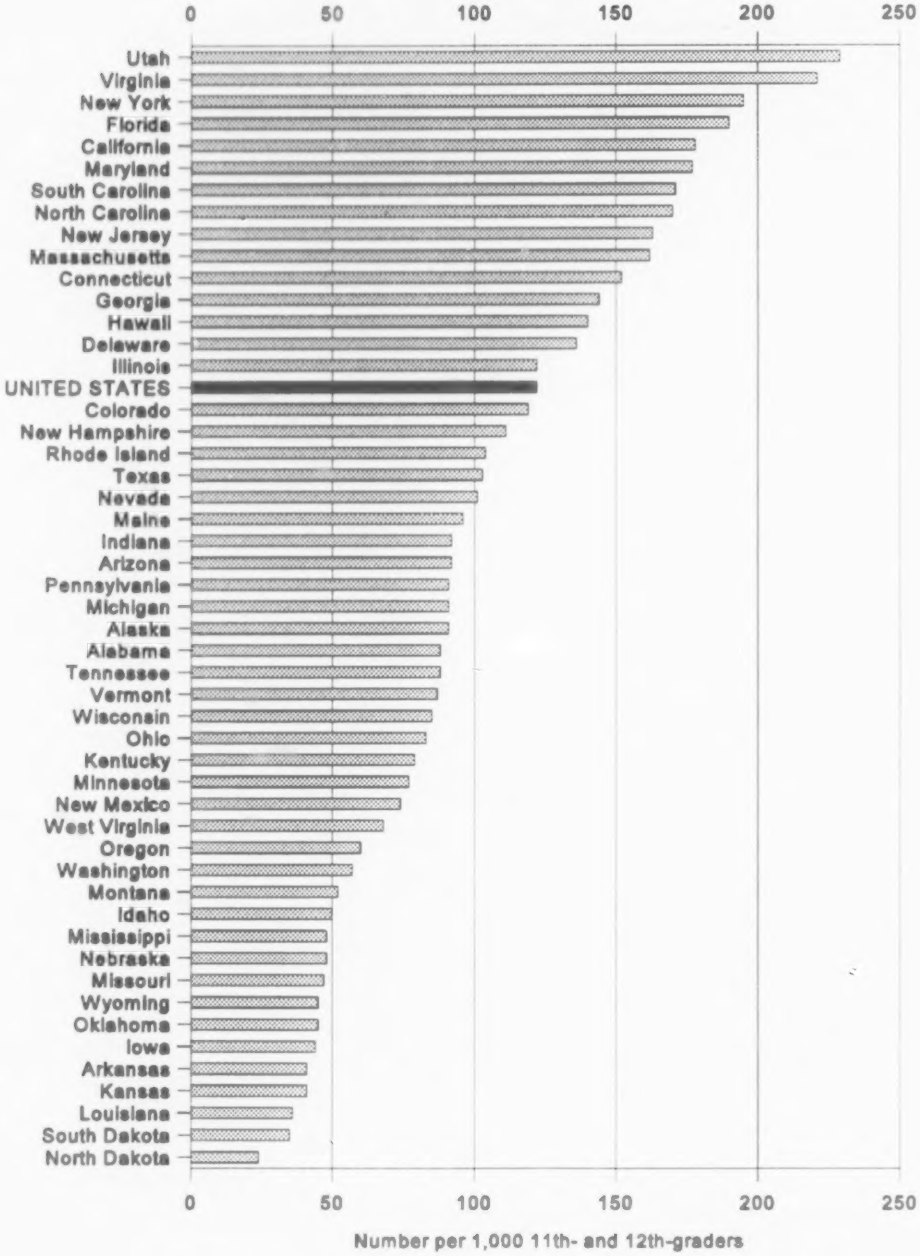
Figure 11a: Percentage of high schools offering Advanced Placement (AP) programs, by state: 1995



SOURCE: Educational Testing Service, *School Report of 1995 Advanced Placement Examinations.*

90

Figure 11b: Number of Advanced Placement Examinations per 1,000 11th-and 12th-grade students, by state: 1995



SOURCE: Educational Testing Service, *School Report of 1995 Advanced Placement Examinations*.

Table 11: Percentage of high schools with Advanced Placement (AP) programs and number of AP examinations per 1,000 11th- and 12th-graders, by state: 1995

State	Percent of high schools with AP program	Examinations per 1,000 11th- and 12th-graders
UNITED STATES	**50**	**122**
Alabama	45	88
Alaska	12	91
Arizona	51	92
Arkansas	22	41
California	66	178
Colorado	50	119
Connecticut	80	152
Delaware	42	136
District of Columbia	100	249
Florida	55	190
Georgia	59	144
Hawaii	65	140
Idaho	41	50
Illinois	49	122
Indiana	55	92
Iowa	30	44
Kansas	25	41
Kentucky	58	79
Louisiana	25	36
Maine	54	96
Maryland	69	177
Massachusetts	78	162
Michigan	50	91
Minnesota	42	77
Mississippi	33	48
Missouri	26	47
Montana	31	52
Nebraska	22	48
Nevada	53	101
New Hampshire	69	111
New Jersey	83	163
New Mexico	40	74
New York	71	195
North Carolina	64	170
North Dakota	5	24
Ohio	56	83
Oklahoma	17	45
Oregon	45	60
Pennsylvania	56	91
Rhode Island	73	104
South Carolina	70	171
South Dakota	19	35
Tennessee	47	88
Texas	45	103
Utah	70	229
Vermont	66	87
Virginia	68	221
Washington	48	57
West Virginia	64	68
Wisconsin	52	85
Wyoming	30	45

SOURCE: Educational Testing Service, *School Report of 1995 Advanced Placement Examinations.*

Indicator 12: Educational attainment of the population

The percentage of the population completing secondary and higher education in the states provides an indication of the skill level of the U.S. workforce. Completion levels reflect both the availability of education and the extent to which completion of certain levels of education is typical. However, because many working-age adults completed their education years ago, the indicator is influenced by the levels of development of an education system over time. States where education systems have undergone major expansions only in recent years may have a large proportion of adults with lower levels of educational attainment, and one would expect to find people in the younger age groups with higher levels of educational attainment than those in older age groups.

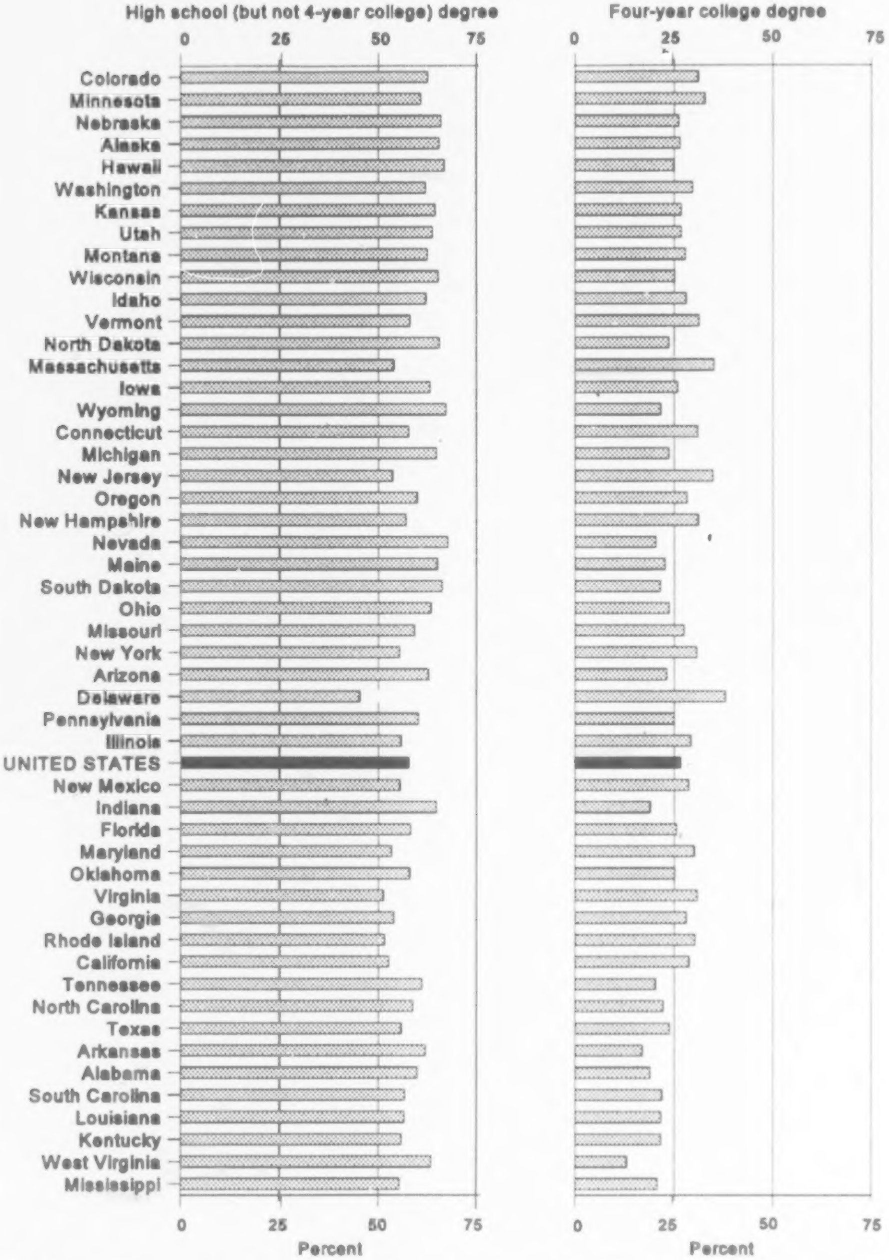
- **In 1994, while eight states had eighty percent or fewer males ages 25 to 64 completing at least high school, 11 other states had 90 percent or more males completing at least high school.**
- **Eighty percent or more females ages 25 to 64 completed at least high school in all but three states—Tennessee, South Carolina, and Louisiana. Eighteen states had a high school completion percentage for females of at least 90 percent.**
- **The majority of states had at least 25 percent of males completing college, whereas 4 states had less than 20 percent of males graduating from college.**
- **Twenty-five percent or more females completed college in 15 states. Of these 15 states, only Massachusetts had a college completion percentage for females above 30 percent. Twenty states had college completion percentages for females of 20 percent or less.**
- **It would appear that adults with high school diplomas but not 4-year college degrees comprise a majority of the population aged 25 to 64 in every state.**

Note on interpretation:

Although the educational attainment of a population is an indicator of the current skill level of the workforce, it is not necessarily a measure of success in educating a large proportion of the population. Within the 25 to 64-year-old age group, there may be many who have moved out of the state where they received their education. Thus, particularly in some states, large segments of the resident population may have been educated elsewhere.

Individuals who have attended college and completed some course work, or even an associate's degree, but not attained a bachelor's degree are counted here as having attained a high school (but not a 4-year college) degree.

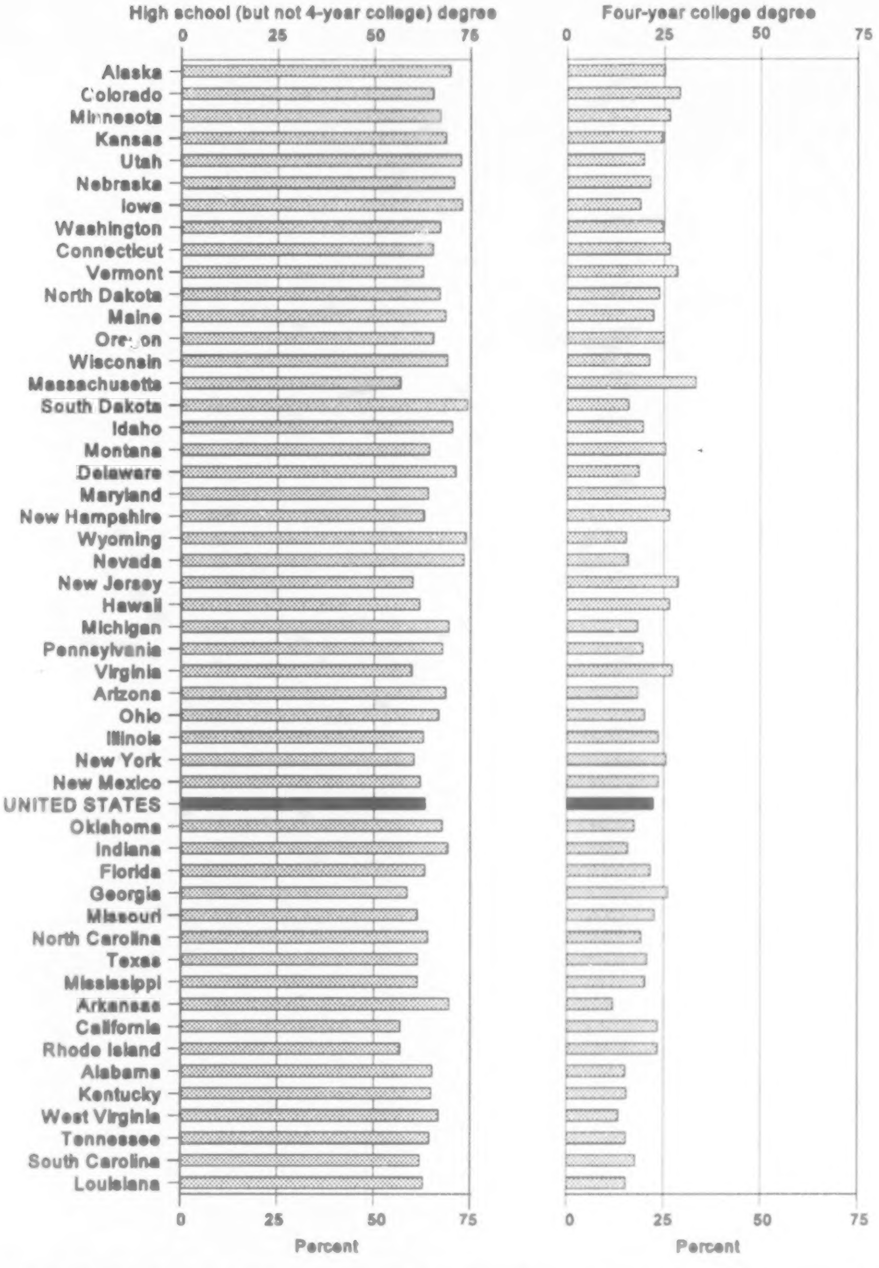
Figure 12a: Percentage of males aged 25 to 64 having attained a certain level of education, by level of educational attainment and state: March 1994



NOTE: States are sorted from high to low based on the sum of the two figures, which represents the percentage of males aged 25 to 64 who have graduated from high school.

SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, March 1994.

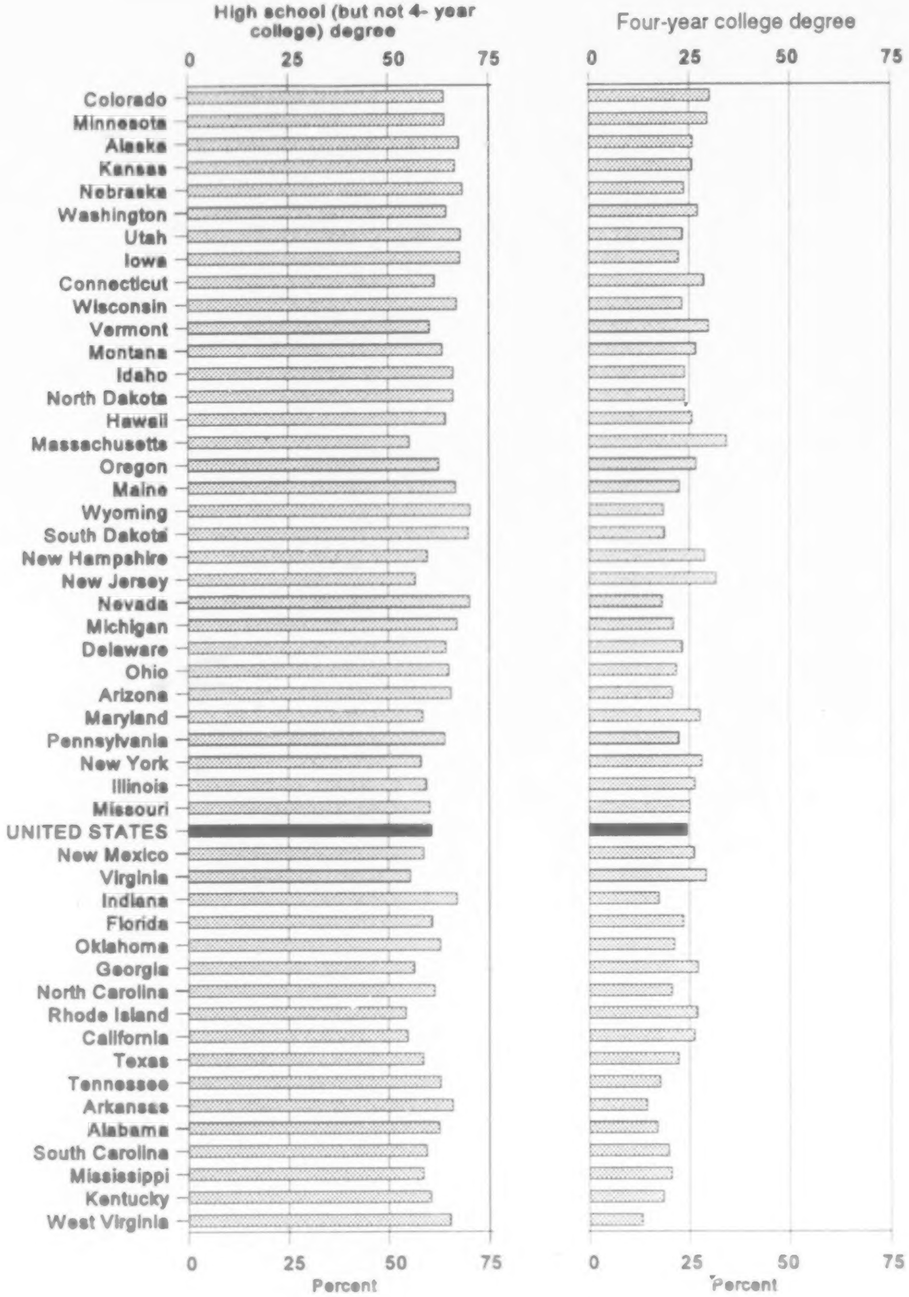
Figure 12b: Percentage of females aged 25 to 64 having attained a certain level of education, by level of educational attainment and state: March 1994



NOTE: States are sorted from high to low based on the sum of the two figures, which represents the prercentage of females who are high school graduates.

SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, March 1994.

Figure 12c: **Percentage of the population aged 25 to 64 having attained a certain level of education, by level of educational attainment and state: March 1994**



NOTE: States are sorted from high to low based on the sum of the two figures, which represents the proportion who are high school graduates.

SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, March 1994.

Table 12a: Percentage of the population aged 25 to 64 having attained a certain level of education, by sex, level of educational attainment, and state: March 1994

	Male			Female		
State	Less than a high school diploma	High school diploma, but not a 4-year college degree	4-year college degree or greater	Less than a high school diploma	High school diploma, but not a 4-year college degree	4-year college degree or greater
UNITED STATES	**15.3**	**58.0**	**26.7**	**14.4**	**63.3**	**22.3**
Alabama	21.1	60.0	18.9	19.6	65.2	15.2
Alaska	8.0	65.5	26.5	5.1	69.8	25.1
Arizona	14.0	62.8	23.2	13.1	68.6	18.3
Arkansas	21.1	62.0	17.0	18.4	69.6	11.9
California	18.5	52.7	28.8	19.5	56.9	23.6
Colorado	6.2	62.6	31.1	5.5	65.3	29.1
Connecticut	11.2	57.8	31.0	8.3	65.2	26.5
Delaware	14.5	58.0	27.5	10.3	71.1	18.6
District of Columbia	16.7	45.3	38.0	18.2	40.2	41.6
Florida	16.2	58.2	25.6	15.1	63.3	21.6
Georgia	17.9	54.0	28.1	15.2	58.7	26.1
Hawaii	8.2	66.8	24.9	11.7	61.8	26.5
Idaho	9.8	62.1	28.1	10.0	70.3	19.7
Illinois	14.9	55.8	29.3	13.5	62.8	23.7
Indiana	16.2	64.8	19.0	15.0	69.2	15.8
Iowa	10.9	63.2	25.9	8.2	72.9	18.9
Kansas	8.7	64.5	26.8	6.8	68.7	24.5
Kentucky	22.4	55.9	21.7	19.6	64.9	15.5
Louisiana	21.7	56.6	21.7	21.9	62.8	15.3
Maine	12.3	65.0	22.7	9.2	68.5	22.3
Maryland	16.5	53.4	30.1	10.6	64.1	25.3
Massachusetts	10.8	53.9	35.2	9.9	56.8	33.3
Michigan	11.6	64.8	23.7	12.3	69.4	18.3
Minnesota	6.5	60.8	32.7	6.2	67.2	26.5
Mississippi	23.8	55.4	20.8	18.4	61.4	20.2
Missouri	13.2	59.3	27.5	15.9	61.3	22.7
Montana	9.7	62.5	27.8	10.1	64.4	25.5
Nebraska	7.8	66.0	26.2	7.7	70.8	21.5
Nevada	12.0	67.7	20.4	11.0	73.3	15.7
New Hampshire	11.9	57.0	31.1	10.6	62.9	26.5
New Jersey	11.6	53.6	34.8	11.4	60.0	28.7
New Mexico	15.9	55.5	28.7	14.2	62.1	23.7
New York	13.7	55.4	30.8	13.8	60.5	25.6
North Carolina	18.9	58.8	22.3	16.8	64.0	19.2
North Dakota	10.8	65.5	23.8	9.1	67.0	23.9
Ohio	12.9	63.4	23.7	13.1	66.8	20.1
Oklahoma	16.9	58.0	25.2	14.7	67.8	17.5
Oregon	11.8	59.9	28.3	9.6	65.3	25.0
Pennsylvania	14.7	60.3	25.0	12.5	67.7	19.7
Rhode Island	18.0	51.7	30.3	19.6	56.8	23.6
South Carolina	21.2	56.8	21.9	20.2	62.0	17.8
South Dakota	12.4	66.2	21.5	10.0	74.2	15.9
Tennessee	18.6	61.1	20.3	20.1	64.5	15.4
Texas	20.3	55.8	23.9	17.9	61.4	20.7
Utah	9.5	63.8	26.8	7.6	72.6	19.8
Vermont	10.6	58.1	31.3	8.9	62.7	28.4
Virginia	17.9	51.3	30.9	12.9	59.8	27.3
Washington	8.3	62.0	29.7	8.2	67.2	24.6
West Virginia	23.5	63.5	13.0	19.7	66.9	13.4
Wisconsin	9.7	65.2	25.2	9.7	69.0	21.3
Wyoming	11.2	67.2	21.7	11.0	73.8	15.3

SOURCE: United States Department of Commerce, Bureau of the Census, Current Population Survey, March 1994.

Table 12b: Percentage of the population aged 25 to 64 having attained a certain level of education, by level of educational attainment and state: March 1994

State	Less than a high school diploma	High school (but not a 4-year college) degree	4-year college degree or greater
UNITED STATES	**14.9**	**60.7**	**24.4**
Alabama	20.3	62.7	17.0
Alaska	6.6	67.6	25.8
Arizona	13.6	65.6	20.8
Arkansas	19.7	65.9	14.4
California	19.0	54.8	26.2
Colorado	5.9	64.0	30.2
Connecticut	9.7	61.7	28.6
Delaware	12.5	64.3	23.2
District of Columbia	17.4	42.8	39.7
Florida	15.7	60.8	23.5
Georgia	16.5	56.4	27.1
Hawaii	10.0	64.3	25.7
Idaho	9.9	66.3	23.8
Illinois	14.2	59.4	26.5
Indiana	15.6	67.1	17.4
Iowa	9.6	68.0	22.4
Kansas	7.7	66.7	25.6
Kentucky	21.0	60.5	18.6
Louisiana	21.8	60.0	18.2
Maine	10.7	66.8	22.5
Maryland	13.6	58.6	27.8
Massachusetts	10.4	55.4	34.2
Michigan	11.9	67.1	20.9
Minnesota	6.4	64.1	29.6
Mississippi	20.9	58.6	20.5
Missouri	14.6	60.3	25.1
Montana	9.9	63.5	26.6
Nebraska	7.8	68.5	23.7
Nevada	11.5	70.2	18.2
New Hampshire	11.3	59.8	28.9
New Jersey	11.5	56.8	31.7
New Mexico	15.0	58.8	26.2
New York	13.8	58.1	28.1
North Carolina	17.8	61.5	20.7
North Dakota	10.0	66.2	23.8
Ohio	13.0	65.1	21.9
Oklahoma	15.8	62.9	21.3
Oregon	10.7	62.6	26.7
Pennsylvania	13.6	64.1	22.3
Rhode Island	18.8	54.3	26.9
South Carolina	20.7	59.5	19.8
South Dakota	11.2	70.0	18.7
Tennessee	19.4	62.9	17.7
Texas	19.1	58.6	22.3
Utah	8.5	68.1	23.3
Vermont	9.7	60.4	29.8
Virginia	15.4	55.5	29.1
Washington	8.2	64.6	27.2
West Virginia	21.5	65.3	13.2
Wisconsin	9.7	67.1	23.2
Wyoming	11.1	70.4	18.5

SOURCE: United States Department of Commerce, Bureau of the Census, Current Population Survey, March 1994.

ECONOMIC AND OTHER OUTCOMES OF EDUCATION

Indicator 13: Higher education completion

Higher education completion is measured here by the number of associate's or bachelor's degrees received by students per 100 persons at an age typical for graduation at each level. The proportions of young people completing associate's and bachelor's degrees in the United States provide an indication of the skill level of entrants into the U.S. workforce. Even though some graduates migrate across states (or nations) after graduation, the ratio of college and university graduates to the state population at the graduation reference age (higher education completion ratio) is an indicator of the skill level of the adult labor pool available in a particular state.

- **In 1993, eight states had associate's degree completion ratios for public and private institutions above 20 per 100 persons 20 years old. Two of these eight states—Wyoming (25.8) and Rhode Island (32.9)—had completion ratios above 25.**

- **Bachelor's degree completion ratios for public and private institutions were higher than associate's degree completion ratios in all of the states. Only Nevada and Alaska had bachelor's degree completion ratios below 20 per 100 persons 22 years old, while a majority of the states had ratios above 30.**

- **Bachelor's degree completion ratios varied more across states for private institutions than for public institutions. North Dakota, the state with the highest completion ratio for public institutions, awarded roughly three times more bachelor's degrees than Massachusetts, the state with the lowest ratio. For private institutions, Rhode Island's ratio was over one hundred times larger than those of Nevada or Wyoming, the states with the lowest ratios.**

- **Five states—North Dakota, Montana, South Dakota, Colorado, and Kansas—had bachelor's degree completion ratios for public institutions above 30. For private institutions, one state—Rhode Island—had a bachelor's degree completion ratio above 30. However, no state had a completion ratio for public institutions below 10, while most states had completion ratios for private institutions below 10.**

Notes on interpretation:

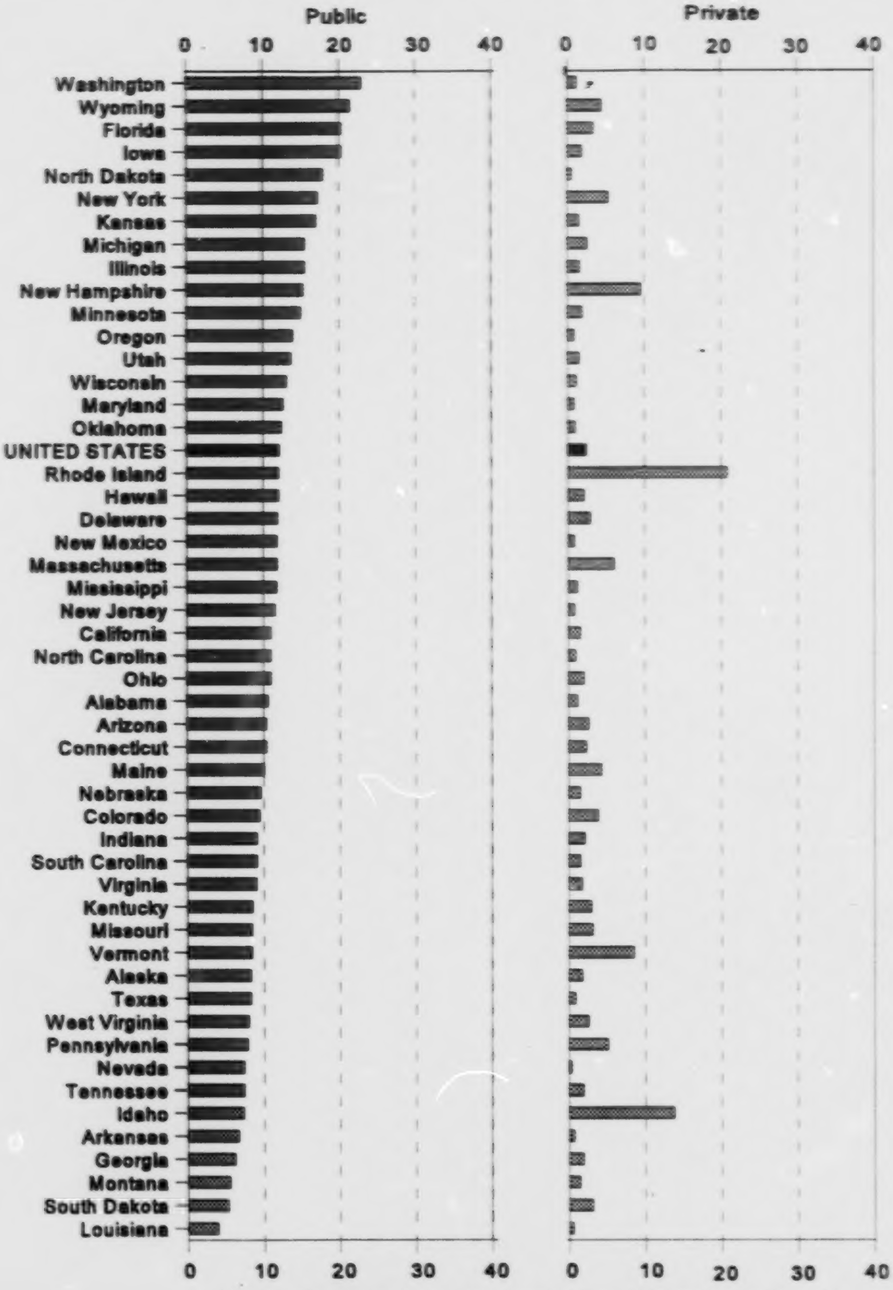
All students completing associate's or bachelor's degrees in state higher education institutions are included in the higher education completion figures. This includes students who had lived in other countries or states before attending their university or who moved to other countries or states after attending their university. Some states, particularly those with a relatively large public university system and many private universities, may have a surplus of "in-migrant" students. Other states, particularly those with a relatively small public university system and few private universities, may have a surplus of "out-migrant" students.

States vary greatly in their relative proportion of associate's degree programs, with some states providing many while others offer programs of similar content within bachelor's degree programs. Comparisons of completion ratios across states, then, should fully consider both degree programs.

A completion ratio should *not* be interpreted as a completion *rate*. Completion ratios allow comparisons across states by standardizing the number of graduates at a particular education level to the size of the population in an age group typical for graduation at that level. It is not, however, an estimate of the percentage of that age group who have graduated. See supplemental note on pages 206–207 for a discussion of graduation reference age.

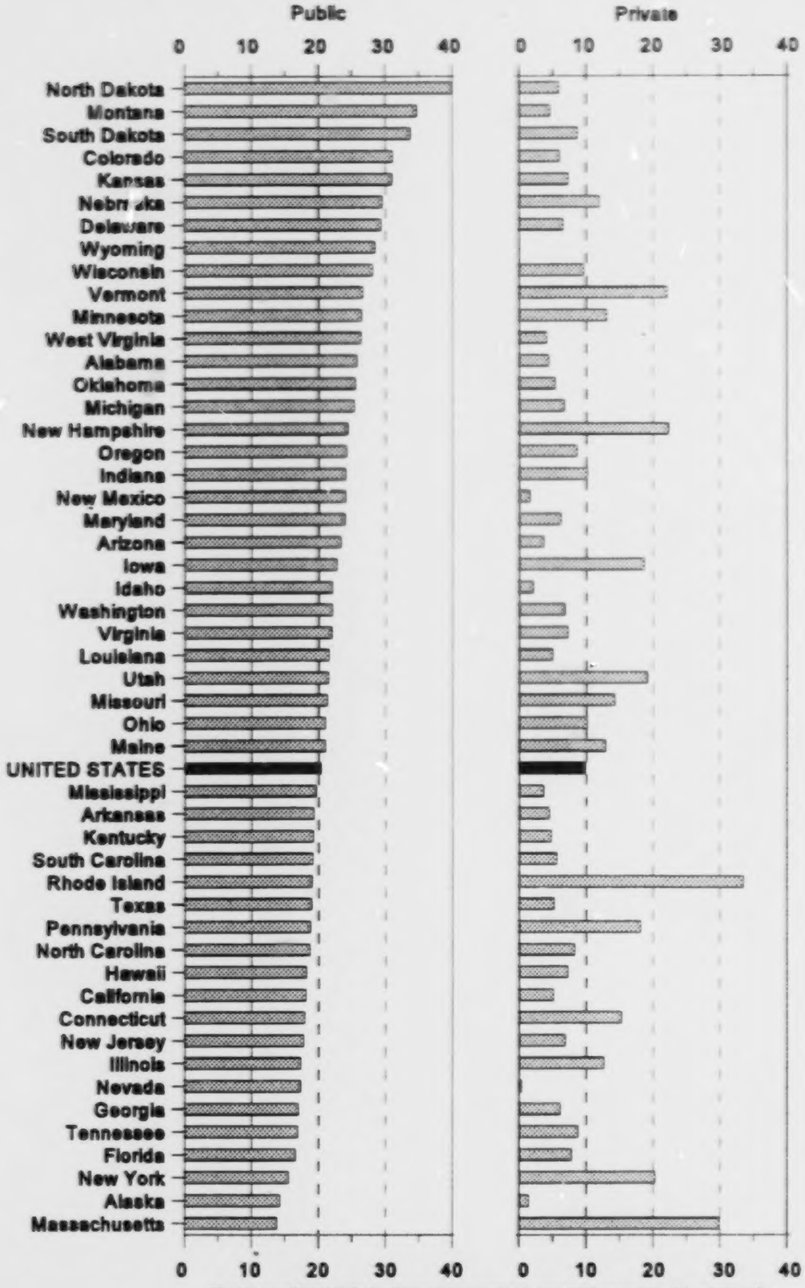
The use of ages 20 and 22 as "typical" ages for higher education completion should not be taken as an endorsement of traditional higher education attendence demographic patterns. For the most part, the two ages used in the denominator of the completion ratio are arbitrary and could be substituted with any two age groups, so long as the age groups were standard across all the states.

Figure 13a: Associate's degrees awarded by institutions of higher education per 100 persons 20 years old, by control of institution and state: 1993



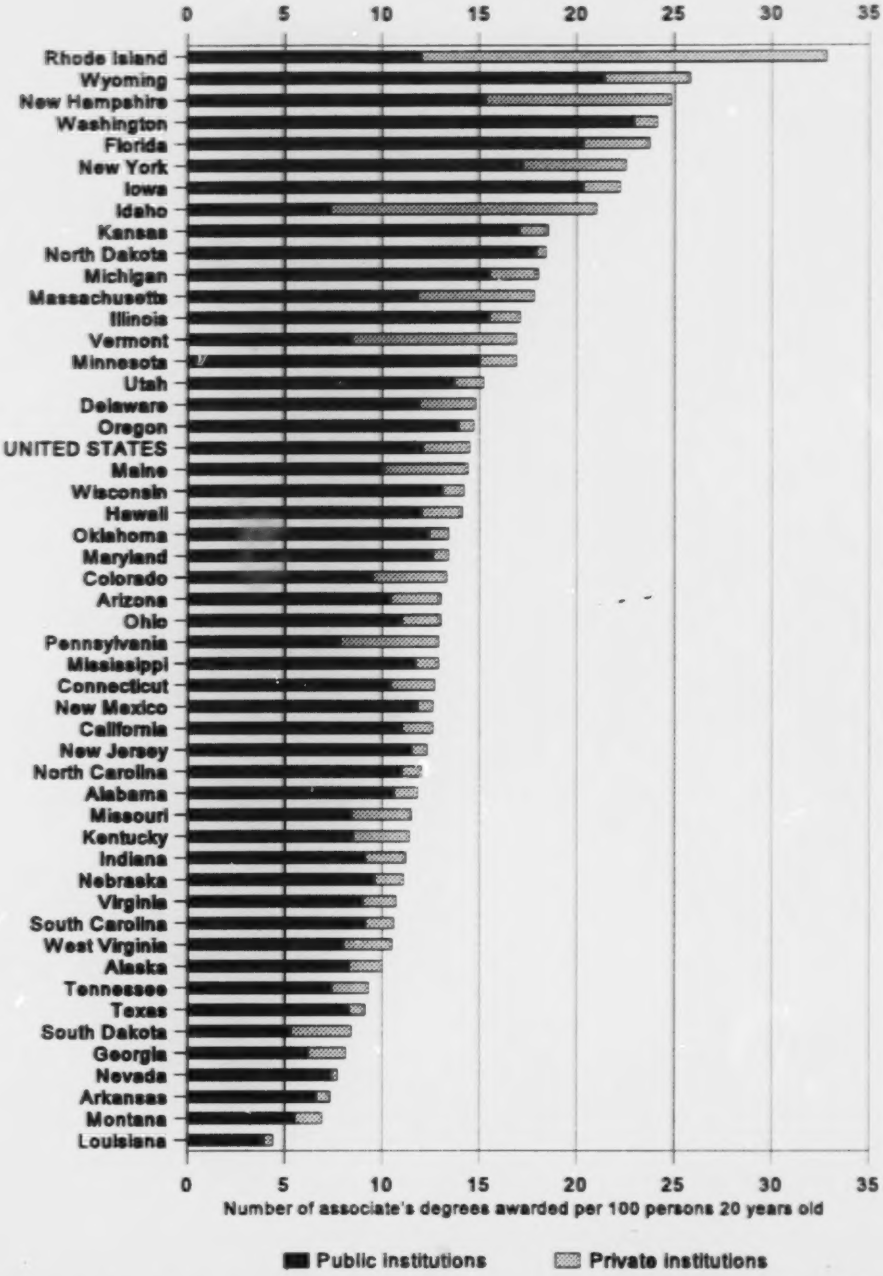
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), *Completions* Survey (based on: *State Comparisons of Education Statistics : 1969-70 to 1993-94*, Table 58). U.S. Department of Commerce, Bureau of the Census, Population Division, unpublished tables consistent with Press Release CB95-39, issued March 1, 1995.

Figure 13b: Bachelor's degrees awarded by institutions of higher education per 100 persons 22 years old, by control of institution and state: 1993



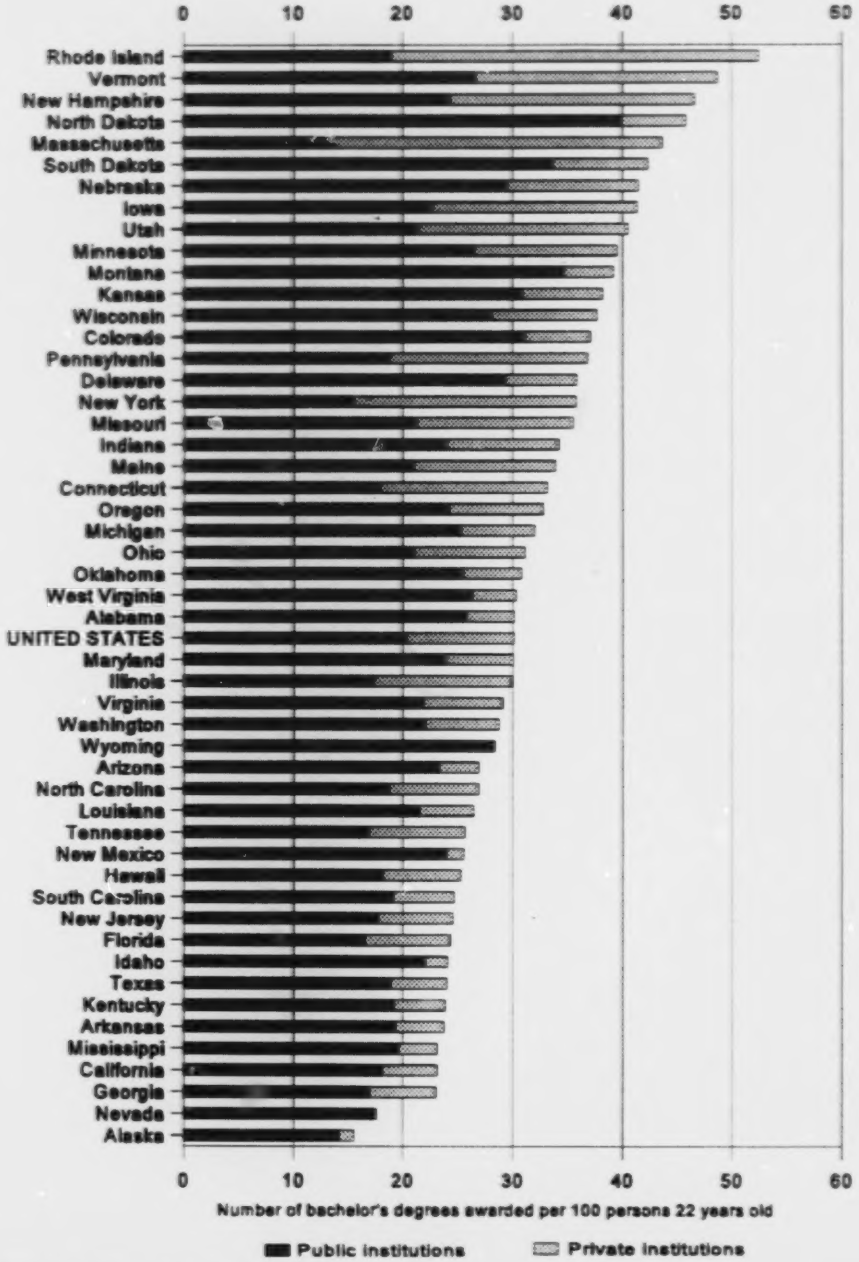
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), *Completions* Survey (based on: *State Comparisons of Education Statistics 1969–70 to 1993–94*, Table 58). U.S. Department of Commerce, Bureau of the Census, Population Division, unpublished tables consistent with Press Release CB95-39, issued March 1, 1995.

Figure 13c: Associate's degrees awarded by institutions of higher education per 100 persons 20 years old, by control of institution and state: 1993



SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), *Completions* Survey (based on: *State Comparisons of Education Statistics : 1969–70 to 1993–94*, Table 58). U.S. Department of Commerce, Bureau of the Census, Population Division, unpublished tables consistent with Press Release CB95-39, issued March 1, 1995.

Figure 13d: Bachelor's degrees awarded by institutions of higher education per 100 persons 22 years old, by control of institution and state: 1993



NOTE: Wyoming has no private 4-year higher education institutions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), *Completions* Survey (based on: *State Comparisons of Education Statistics 1969–70 to 1993–94*, Table 58). U.S. Department of Commerce, Bureau of the Census, Population Division, unpublished tables consistent with Press Release CB95-38, issued March 1, 1995.

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Table 13: Higher education degrees awarded per 100 persons at graduation reference age, by level of education, control of institution, and state (1993)

State	Number of Associate's degrees awarded per 100 persons 20 years old			Number of Bachelor's degrees awarded per 100 persons 22 years old		
	Total	Public	Private	Total	Public	Private
UNITED STATES	**14.5**	**12.1**	**2.4**	**30.1**	**20.3**	**9.8**
Alabama	11.7	10.6	1.2	30.1	25.7	4.4
Alaska	9.9	8.3	1.7	15.5	14.2	1.4
Arizona	13.0	10.4	2.6	26.9	23.3	3.6
Arkansas	7.3	6.6	0.7	23.7	19.3	4.5
California	12.6	11.0	1.6	23.1	18.1	5.0
Colorado	13.2	9.5	3.8	37.1	31.1	6.0
Connecticut	12.8	10.4	2.3	33.1	17.9	15.3
District of Columbia	6.1	2.9	3.2	67.7	4.4	63.4
Delaware	14.8	11.9	2.9	35.8	29.3	6.5
Florida	23.7	20.3	3.4	24.3	16.5	7.8
Georgia	8.1	6.2	1.9	23.0	16.9	6.1
Hawaii	14.1	12.0	2.1	25.3	18.1	7.2
Idaho	21.0	7.3	13.7	24.1	22.0	2.0
Illinois	17.1	15.5	1.6	29.9	17.3	12.6
Indiana	11.2	9.1	2.1	34.2	24.0	10.2
Iowa	22.2	20.3	1.9	41.3	22.7	18.6
Kansas	18.5	17.0	1.5	38.2	30.9	7.3
Kentucky	11.4	8.5	2.9	23.9	19.2	4.7
Louisiana	4.4	3.9	0.5	26.5	21.5	5.0
Maine	14.4	10.1	4.3	33.9	21.0	12.9
Maryland	13.4	12.6	0.8	30.1	23.9	6.2
Massachusetts	17.8	11.8	6.0	43.6	13.7	29.9
Michigan	18.0	15.5	2.5	32.0	25.3	6.7
Minnesota	16.9	15.0	1.9	39.5	26.4	13.1
Mississippi	12.8	11.7	1.2	23.1	19.6	3.6
Missouri	11.5	8.4	3.1	35.5	21.3	14.3
Montana	6.9	5.5	1.4	39.2	34.6	4.6
Nebraska	11.1	9.6	1.5	41.5	29.5	12.0
Nevada	7.8	7.4	0.3	17.5	17.3	0.3
New Hampshire	24.7	15.3	9.5	46.6	24.3	22.3
New Jersey	12.3	11.5	0.8	24.6	17.7	6.8
New Mexico	12.6	11.8	0.8	25.5	24.0	1.5
New York	22.5	17.2	5.3	35.8	15.5	20.2
North Carolina	12.0	11.0	1.0	26.9	18.7	8.2
North Dakota	18.4	17.9	0.5	45.8	39.9	5.9
Ohio	13.0	11.0	2.0	31.1	21.0	10.1
Oklahoma	13.4	12.4	1.0	30.8	25.5	5.3
Oregon	14.7	13.9	0.8	32.8	24.2	8.6
Pennsylvania	13.0	7.8	5.1	36.8	18.7	18.1
Rhode Island	32.9	12.0	20.8	52.5	19.0	33.5
South Carolina	10.6	9.1	1.5	24.6	19.1	5.5
South Dakota	8.4	5.3	3.1	42.3	33.7	8.6
Tennessee	9.3	7.4	1.9	25.7	16.9	8.8
Texas	9.1	8.3	0.8	24.0	18.9	5.2
Utah	15.2	13.7	1.5	40.5	21.4	19.1
Vermont	16.9	8.4	8.5	48.7	26.6	22.1
Virginia	10.8	9.0	1.7	29.1	21.9	7.2
Washington	24.1	22.9	1.2	28.7	22.0	6.7
West Virginia	10.5	8.0	2.5	30.3	26.3	4.0
Wisconsin	14.2	13.1	1.1	37.7	28.0	9.6
Wyoming	25.8	21.4	4.4	28.4	28.4	0.0

NOTE: Details may not add to totals due to rounding. Wyoming has no private 4-year higher education institutions.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), *Completions* Survey, (based on: *State Comparisons of Education Statistics 1969-70 to 1993-94*, Table 58). U.S. Department of Commerce, Bureau of the Census, Population Division, unpublished tables consistent with Press Release CB95-39, issued March 1, 1995.

Indicator 14: Labor force participation

The labor force participation rate is the percentage of the adult population that is either employed or actively seeking work. Here, it is calculated for adults in their prime working years—ages 25 to 64. Differences in participation rates among the states are the result of several factors, including: (a) the proportion of the adult population enrolled full time in education; (b) the number of individuals who have withdrawn from the labor force after being unable to find work, due to illness or disability, or because of early retirement; and (c) the prevalence of adults who voluntarily refrain from seeking employment while they care for their families. Withdrawal from the labor force for any reason has the effect of reducing the labor force participation rate. The difference in labor force participation rates between groups of adults with different levels of educational attainment represents the "payoff", or return on investment, in labor force participation of attaining higher levels of education.

- **In 1994, the labor force participation rate increased with higher levels of educational attainment in every state. The increase was larger with the attainment of a high school degree than with the attainment of a 4-year college degree.**
- **Those with a high school diploma (but not a 4-year college) degree had a higher labor force participation rate than did those without nationally and in 38 states when measured by a multiple comparison procedure involving all states. Forty-nine states had a higher rate for high school graduates when measured by a single comparison procedure.**
- **Those with 4-year college degrees had a higher labor force participation rate than did those with a high school (but not a 4-year college) diploma nationally and in 23 states when measured by a multiple comparison procedure involving all states. Thirty-six states had a higher rate for 4-year college graduates when measured by a single comparison procedure.**
- **The difference between high school (but not 4-year college) and 4-year college graduates' labor force participation rates varied widely. A 4-year college degree represented a difference in labor force participation in West Virginia of 17.8 percentage points, while in Wisconsin the difference was negligible.**

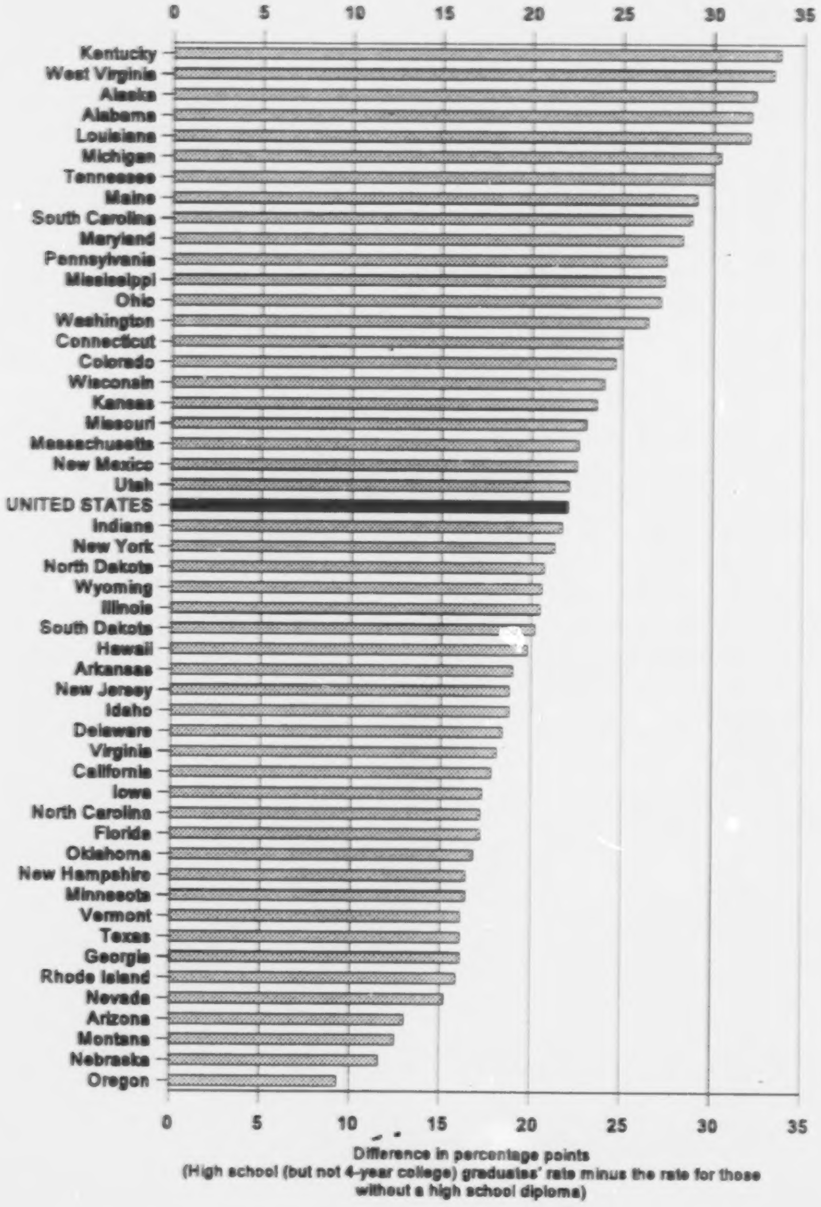
Notes on interpretation:

Although the educational attainment of a population is an indicator of the current skill level of the workforce, it is not necessarily a measure of a state's success in educating a large proportion of its population. Within the 25- to 64-year-old age group, there may be many who have moved out of the state where they received their education. Thus, particularly in some states, large segments of the resident population may have been educated elsewhere.

The labor force participation rate and the employment rate do not parallel each other over time in lockstep. In poor economies, some frustrated and discouraged job seekers may quit looking for work, thus removing themselves from the labor force even though they would prefer to be employed. They may choose, instead, to return to school or spend more time with their families, for example. The statistical effects of discouraged workers removing themselves from the labor force are a reduction in the labor force participation rate (where the size of the labor force is the numerator) and an *increase* in the employment rate (where the size of the labor force is the denominator). The converse result can be observed in good economies when the now hopeful, formerly discouraged workers return to the labor force to look for work, thus helping to raise the labor force participation rate and, until they can find employment, lower the employment rate.

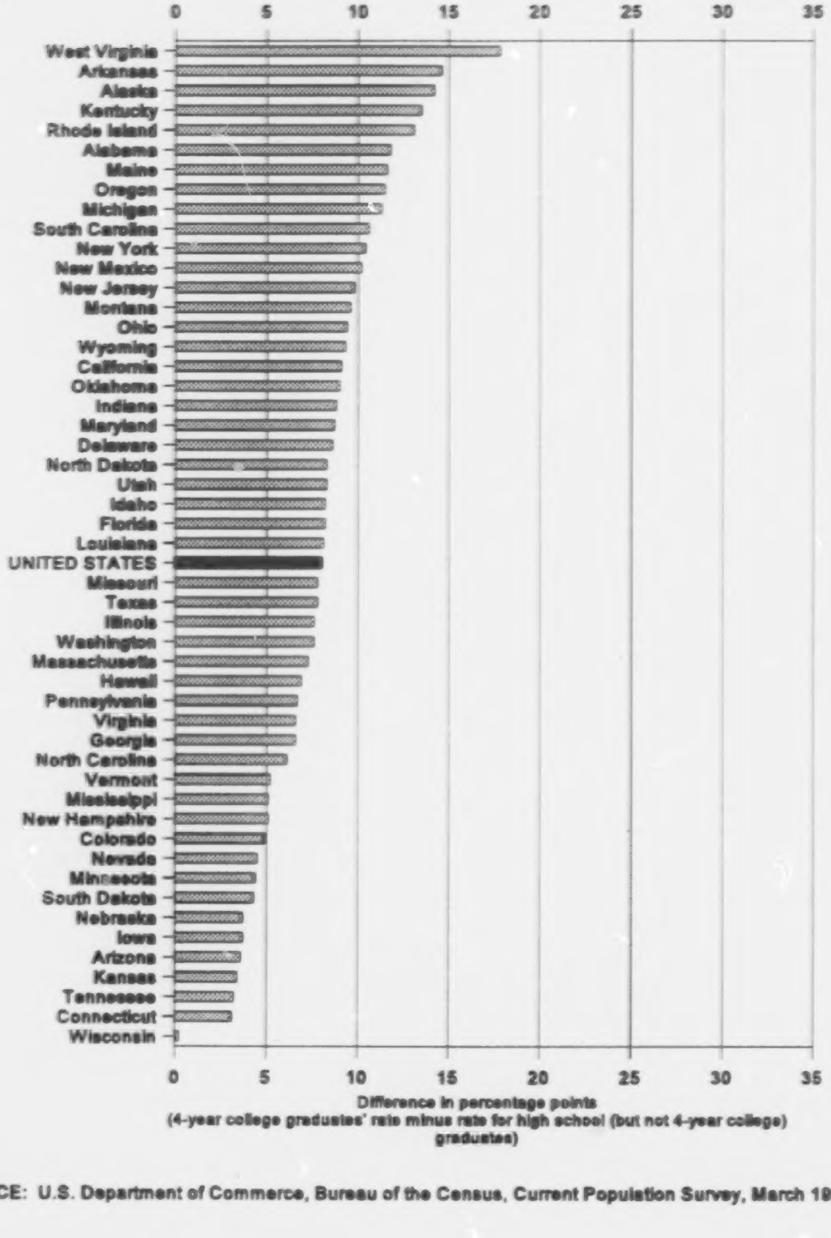
Individuals who have attended college and completed some course work, or even an associate's degree, but not attained a bachelor's degree are counted here as having attained a high school (but not a 4-year college) degree.

Figure 14a: Difference in labor force participation rates between high school (but not 4-year college) graduates and those without a high school diploma among 25-to 64-year-olds, by state: March 1994



SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, March 1994.

Figure 14b: Difference in labor force participation rates between 4-year college graduates and high school (but not 4-year college) graduates among 25- to 64-year-olds, by state: March 1994



SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, March 1994.

Table 14: Percentage of the population aged 25 to 64 who are in the labor force, by level of educational attainment and difference in labor force participation rates between those with different levels of educational attainment, by state: March 1994

State	Less than a high school diploma	High school (but not 4-year college) diploma	4-year college degree or greater	Difference between high school (but not 4-year college) graduates and non-graduates	Difference between 4-year college and high school (but not 4-year college) graduates
UNITED STATES	**58.3**	**80.3**	**88.3**	**22.0 ****	**8.0 ****
Alabama	47.4	79.4	91.2	32.1 **	11.8 **
Alaska	48.3	80.5	94.7	32.3 **	14.2 **
Arizona	66.5	79.6	83.1	13.0 *	3.6
Arkansas	58.9	77.9	92.5	19.0 **	14.6 **
California	60.9	78.7	87.8	17.8 **	9.1 **
Colorado	59.4	84.1	89.0	24.6 *	4.9
Connecticut	60.8	85.8	88.9	25.0 **	3.1
Delaware	65.4	83.7	92.3	18.4 **	8.6 *
District of Columbia	57.4	72.2	90.2	14.8 *	18.0 **
Florida	62.0	79.2	87.4	17.2 **	8.2 **
Georgia	64.1	80.2	86.8	16.1 **	6.6 *
Hawaii	61.9	81.8	88.6	19.8 **	6.9 *
Idaho	65.2	84.0	92.2	18.8 **	8.2 **
Illinois	60.5	81.0	88.6	20.5 **	7.6 **
Indiana	60.0	81.7	90.5	21.7 **	8.8 *
Iowa	69.0	86.2	89.9	17.3 *	3.7
Kansas	63.1	86.7	90.1	23.6 **	3.4
Kentucky	43.1	76.8	90.3	33.7 **	13.5 **
Louisiana	41.9	73.8	82.0	32.0 **	8.1 *
Maine	50.6	79.7	91.3	29.1 **	11.6 **
Maryland	54.5	82.8	91.5	28.3 **	8.7 *
Massachusetts	58.4	81.0	88.3	22.6 **	7.3 **
Michigan	48.1	78.5	89.8	30.4 **	11.3 **
Minnesota	69.9	86.3	90.6	16.4 *	4.4
Mississippi	54.7	82.0	87.1	27.3 **	5.1
Missouri	57.3	80.3	88.1	23.0 **	7.8 *
Montana	71.3	83.8	93.4	12.5 *	9.6 **
Nebraska	75.3	86.9	90.6	11.6 *	3.7
Nevada	67.1	82.3	86.8	15.2 *	4.5
New Hampshire	66.1	82.6	87.6	16.4 *	5.1
New Jersey	60.0	78.8	88.6	18.8 **	9.8 **
New Mexico	51.6	74.1	84.3	22.5 **	10.2 *
New York	53.7	75.0	85.4	21.3 **	10.4 **
North Carolina	64.6	81.9	88.0	17.2 **	6.1 **
North Dakota	65.5	86.2	94.5	20.7 **	8.3 **
Ohio	52.9	80.1	89.4	27.1 **	9.4 **
Oklahoma	60.2	77.0	86.0	16.8 **	9.0 *
Oregon	69.5	78.7	90.2	9.3	11.5 **
Pennsylvania	52.4	79.8	86.4	27.4 **	6.7 **
Rhode Island	64.1	80.0	93.1	15.9 *	13.1 **
South Carolina	51.4	80.2	90.8	28.8 **	10.6 **
South Dakota	66.7	86.8	91.1	20.2 **	4.3
Tennessee	51.9	81.9	85.1	30.0 **	3.2
Texas	65.3	81.4	89.2	16.1 **	7.8 **
Utah	60.2	82.3	90.5	22.1 **	8.3
Vermont	69.2	85.3	90.5	16.1 *	5.2
Virginia	64.8	82.9	89.5	18.1 **	6.6 *
Washington	55.2	81.7	89.2	26.4 **	7.6 *
West Virginia	39.4	72.7	90.4	33.3 **	17.8 **
Wisconsin	64.2	88.2	88.4	24.0 **	0.2
Wyoming	64.0	84.6	93.9	20.6 *	9.3 *

** Difference is statistically significant at the 95 percent confidence level based on a multiple comparison procedure involving all states and two comparisons between educational attainment levels (K=100).

* Difference is statistically significant at the 95 percent confidence level based on a single comparison procedure (K=2).

SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, March 1994.

Indicator 15: Employment and education

The "labor force" consists of all adults who are either employed or actively seeking employment. The employment rate is the percentage of adults in the labor force who are employed. This measure focuses on the employment rate for adults in their prime working years—ages 25 to 64. If employment rates rise with higher levels of educational attainment, higher levels of education could be considered worthwhile investments. In some states, however, this kind of positive relationship between educational attainment and employment may not be as strong as in others, or it may not exist at all. Not all state economies need a workforce with high academic credentials. Moreover, even people with high levels of education and training may not fare well in the job market if there is not a current demand for their particular skills. This indicator calculates a measure of the sensitivity of employment rates to educational attainment. The measure represents the "payoff", or return on investment, in employability of attaining higher levels of education.

- **In 1994, the average difference between employment rates for high school (but not 4-year college) graduates and non-graduates was about twice the difference between those for 4-year college and high school (but not 4-year college) graduates.**

- **Those with high school diplomas (but not 4-year college degrees) had a higher employment rate than did those without a diploma nationally and in 11 states when measured by a multiple comparison procedure involving all states. Twenty-three states had a higher rate for high school graduates when measured by a single comparison procedure.**

- **Those with 4-year college degrees had a higher employment rate than did those with high school diplomas (but not 4-year college degrees) nationally and in 19 states when measured by a multiple comparison procedure involving all states. Twenty-seven states had a higher rate for 4-year college graduates when measured by a single comparison procedure.**

- **Whereas only one state had an employment rate over 95 percent for those with less than a high school diploma, no state had an employment rate under 95 percent for 4-year college graduates.**

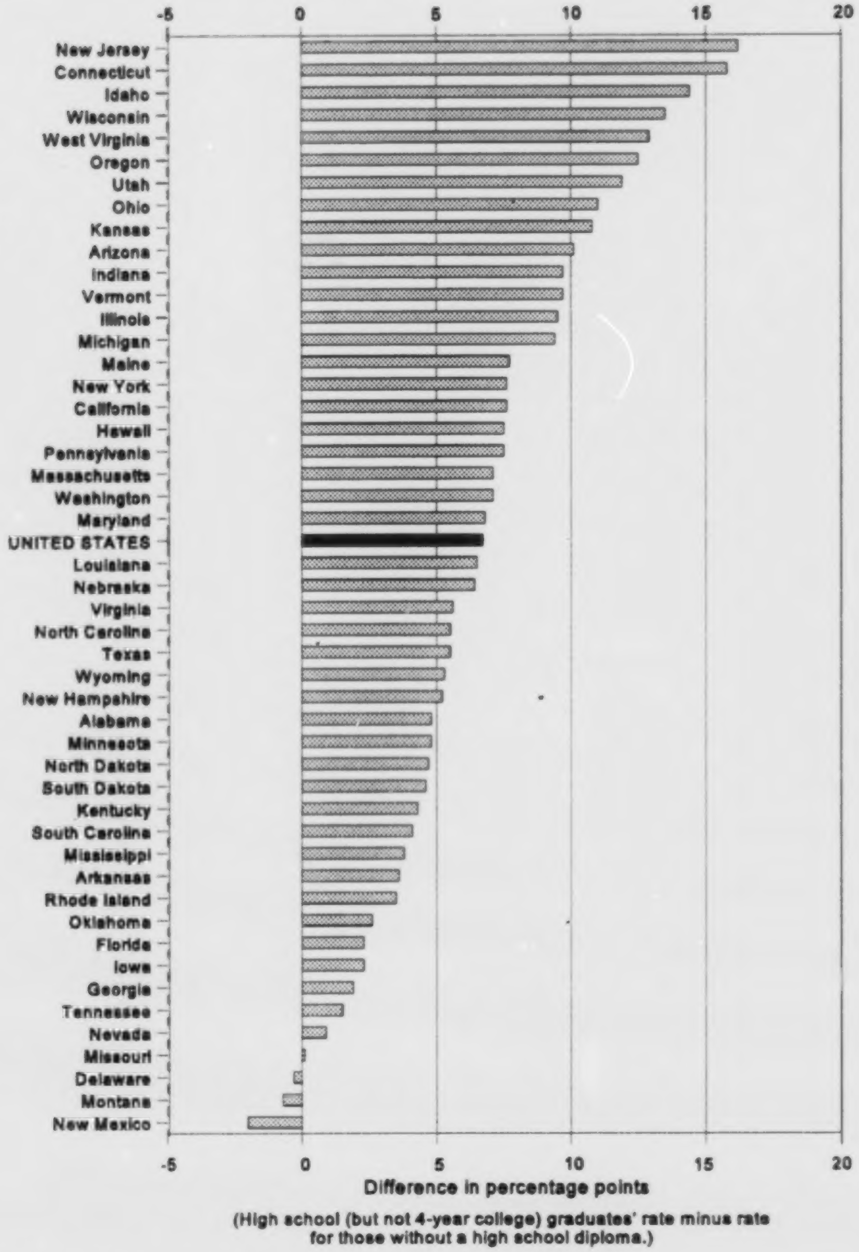
Notes on interpretation:

Although the educational attainment of a population is an indicator of the current skill level of the workforce, it is not necessarily a measure of a state's success in educating a large proportion of its population. Within the 25- to 64-year-old age group, there may be many who have moved out of the state where they received their education. Thus, particularly in some states, large segments of the resident population may have been educated elsewhere.

The labor force participation rate and the employment rate do not parallel each other over time in lockstep. In poor economies, some frustrated and discouraged job seekers may quit looking for work, thus removing themselves from the labor force even though they would prefer to be employed. They may choose, instead, to return to school or spend more time with their families, for example. The statistical effects of discouraged workers removing themselves from the labor force are a reduction in the labor force participation rate (where the size of the labor force is the numerator) and an *increase* in the employment rate (where the size of the labor force is the denominator). The converse result can be observed in good economies when the now hopeful, formerly discouraged workers return to the labor force to look for work, thus helping to raise the labor force participation rate and, until they can find employment, lower the employment rate.

Individuals who have attended college and completed some course work, or even an associate's degree, but not attained a bachelor's degree are counted here as having attained a high school (but not a 4-year college) degree.

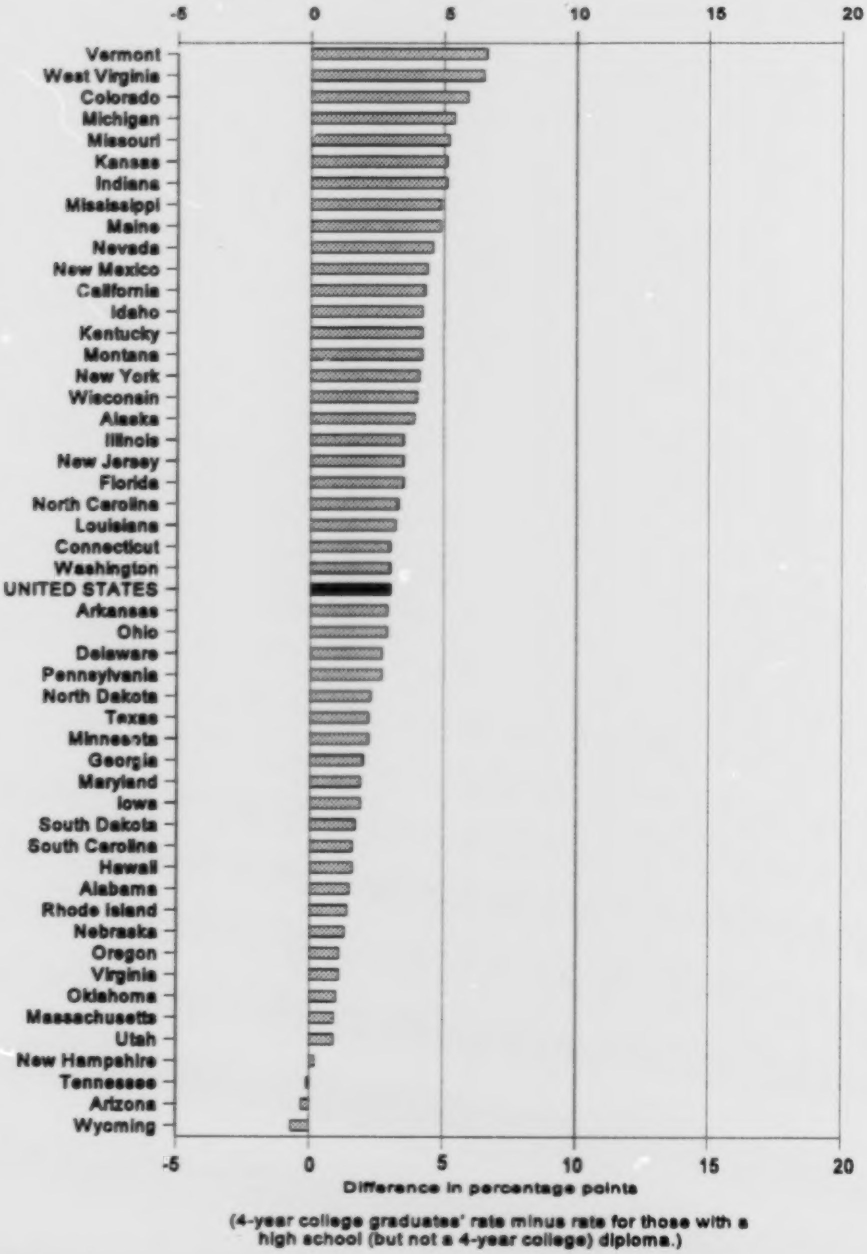
Figure 15a: Difference in employment rates between high school (but not 4-year college) graduates and those without a high school diploma among 25- to 64-year-olds, by state: March 1994



NOTE: Sample sizes were too small in Alaska and Colorado to permit reliable estimates.

SOURCE: U.S. Department of Education, Bureau of the Census, Current Population Survey, March 1994.

Figure 15b: Difference in employment rates between 4-year college graduates and high school (but not 4-year college) graduates among 25- to 64-year-olds, by state: March 1994



SOURCE: U.S. Department of Education, Bureau of the Census, Current Population Survey, March 1994.

Table 15: Percentage of the population ages 25 to 64 and in the labor force employed, by level of educational attainment and difference in employment rates between those with different levels of educational attainment, by state: March 1994

State	Less than a high school diploma	High school (but not a 4-year college) diploma	4-year college degree or greater	Difference between high school (but not 4-year college) graduates and non-graduates	Difference between 4-year college and high school (but not 4-year college) graduates
UNITED STATES	**87.4**	**94.1**	**97.1**	**6.7****	**3.0****
Alabama	90.7	95.5	97.0	4.8	1.5
Alaska	—	91.2	95.0	—	3.9 *
Arizona	85.6	95.8	95.5	10.1 *	-0.3
Arkansas	92.6	96.2	99.2	3.6	2.9 *
California	84.0	91.6	96.0	7.6 **	4.3 **
Colorado	—	93.3	99.2	—	5.9 **
Connecticut	78.7	94.5	97.5	15.8 *	3.0
Delaware	94.8	94.5	97.2	-0.3	2.7
District of Columbia	90.8	82.8	97.0	-8.0 *	14.3 **
Florida	91.2	93.5	96.9	2.3	3.5 **
Georgia	93.2	95.2	97.1	1.9	2.0
Hawaii	87.5	95.1	96.7	7.5	1.6
Idaho	80.5	94.9	99.1	14.4 *	4.2 **
Illinois	85.2	94.7	98.2	9.5 **	3.5 **
Indiana	85.2	94.9	100.0	9.7 *	5.1 **
Iowa	94.2	96.4	98.3	2.3	1.9
Kansas	83.1	93.8	99.0	10.8 *	5.1 **
Kentucky	91.0	95.3	99.5	4.3	4.2 **
Louisiana	88.6	95.1	98.3	6.5 *	3.2 *
Maine	84.3	92.0	96.9	7.7	4.9 *
Maryland	87.9	94.7	96.7	6.8 *	1.9
Massachusetts	87.1	94.3	95.2	7.1 **	0.9
Michigan	83.5	93.0	98.4	9.4 **	5.4 **
Minnesota	90.5	95.3	97.5	4.8	2.2
Mississippi	90.6	94.4	99.4	3.8	4.9 **
Missouri	91.7	91.8	97.0	0.1	5.2 *
Montana	94.3	93.6	97.7	-0.7	4.2 *
Nebraska	90.3	96.8	98.1	6.4	1.3
Nevada	93.2	94.0	98.6	0.9	4.6 **
New Hampshire	91.1	96.3	96.5	5.2	0.2
New Jersey	77.0	93.2	96.7	16.2 **	3.5 **
New Mexico	96.2	94.2	98.6	-2.0	4.4 *
New York	84.7	92.4	96.4	7.6 **	4.1 **
North Carolina	90.8	96.3	99.6	5.5 **	3.3 **
North Dakota	90.8	95.4	97.7	4.7	2.3
Ohio	83.5	94.6	97.5	11.0 **	2.9 **
Oklahoma	92.0	94.6	95.7	2.6	1.0
Oregon	83.9	96.3	97.5	12.5 *	1.1
Pennsylvania	86.9	94.4	97.1	7.5 **	2.7 **
Rhode Island	89.1	92.5	93.9	3.5	1.4
South Carolina	91.1	95.2	96.9	4.1	1.6
South Dakota	92.2	96.8	98.5	4.6	1.7
Tennessee	94.0	95.6	95.5	1.5	-0.1
Texas	89.1	94.6	96.8	5.5 **	2.2 *
Utah	85.8	97.6	98.5	11.9 *	0.9
Vermont	83.7	93.4	100.0	9.7 *	6.6 **
Virginia	91.5	97.1	98.1	5.6 *	1.1
Washington	85.2	92.3	95.3	7.1	3.0
West Virginia	78.7	91.6	98.1	12.9 **	6.5 **
Wisconsin	81.7	95.2	99.2	13.5 *	4.0 **
Wyoming	91.8	97.1	96.4	5.3	-0.7

— Sample size too small to permit a reliable estimate.

** Difference is statistically significant at the 95 percent confidence level based on a multiple comparison procedure involving all states and two comparisons between educational attainment levels (K=100).

* Difference is statistically significant at the 95 percent confidence level based on a single comparison procedure (K=2).

SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, March 1994.

Indicator 16: Education and earnings

This indicator examines the relationship between education and earnings among persons in their prime earning years—ages 25 to 64. It is based on the percentages of individual adults earning at least certain threshold annual incomes ($5,000 or $40,000) given particular levels of educational attainment (less than high school, high school or college graduation). Then, it calculates the differences between the percentages of persons earning the threshold amount or above between two levels of educational attainment. Large percentage point differences between levels of attainment in some states suggest that a higher education level may be a more worthwhile financial investment than in other states with smaller differences. These differences represent the impact, or return on investment, that attaining various levels of education may have on one's earnings and, by extension, on the quality of one's life. They are also an indication of the level of demand in a state's labor market for workers at particular levels of educational attainment.

- **In 1993, those with high school diplomas (but not 4-year college degrees) were more likely to earn more than $5,000 annually than were those without high school diplomas nationally and in 31 states when measured by a multiple comparison procedure involving all states. High school graduates were more likely to earn at the higher level in forty-three states when measured by a single comparison procedure.**

- **Those with 4-year college degrees were more likely to earn more than $40,000 annually than were those with high school diplomas (but not 4-year college degrees) nationally and in 45 states when measured by a multiple comparison procedure involving all states. 4-year college graduates were more likely to earn at the higher level in 48 states when measured by a single comparison procedure.**

Notes on interpretation:

Earnings of adults who are unemployed or not in the labor force, and who may have minimal annual earnings, are included in the calculation of this measure. That is, all adults who are members of the age group 25 to 64 are included in the calculations, regardless of their labor force status.

Using $5,000 and $40,000 as thresholds for earnings comparisons between educational attainment groups are necessitated the dual constraints of sample size requirements for estimates and the response categories used in the Current Population Survey.

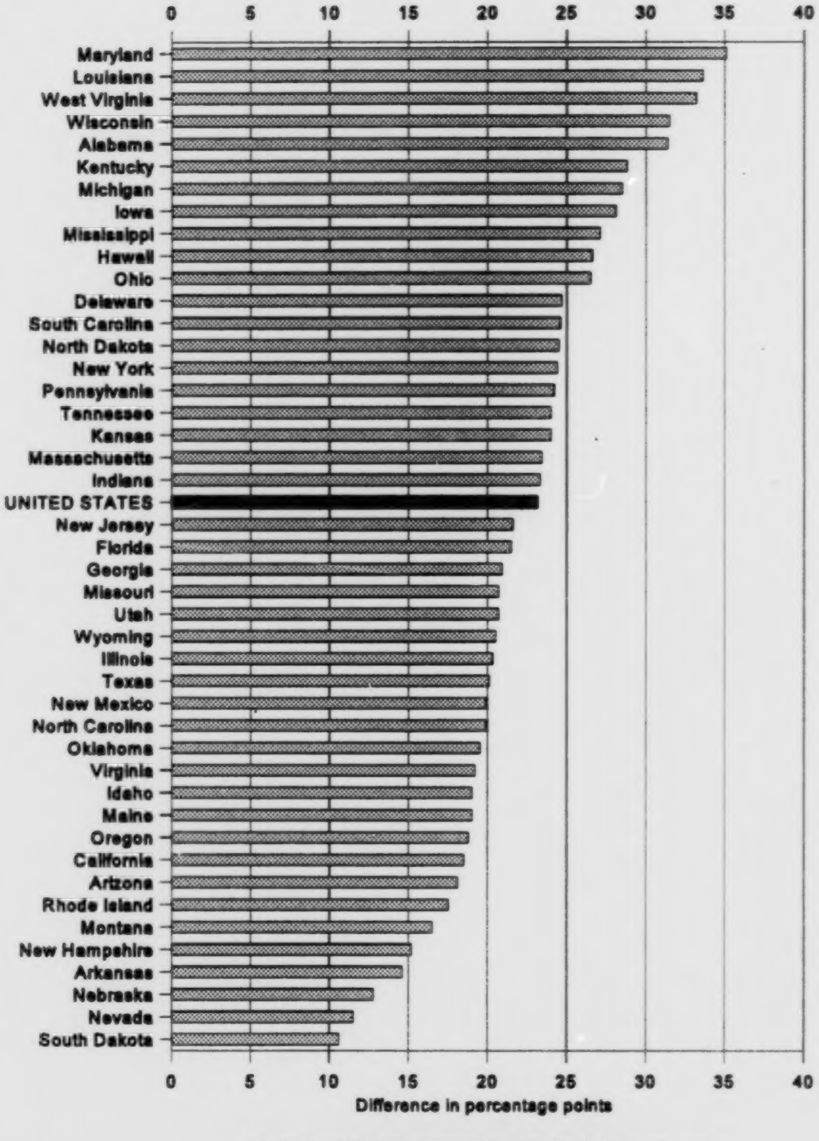
Although the educational attainment of a population is an indicator of its current skill level, it is not necessarily a measure of success in educating a large proportion of the population. Within the 25- to 64-year-old age group, there may be many who have moved out of the country or state where they received their education. Thus, particularly in some U.S. states, large segments of the resident population may have been educated elsewhere

Education represents an intangible investment in human skills that may produce benefits for the individual and society. These benefits may include higher earnings from work if employers demand these skills and are willing to pay for them. The earnings advantage that more highly educated persons have compared to others can be viewed as part of the economic return to their investment in education.

Care must be taken in using this indicator as a measure of the rate of return to individuals' investment in education. Earnings are influenced by many factors, including the balance between labor demand and supply. Also, a calculation of the rate of return must take account of the costs to individuals of obtaining additional education. These costs include tuition and other direct costs of attending college, along with earnings foregone by not working (or working only part-time) while attending school. If these costs are similar in two states, then higher levels of earnings in one state will generally represent a higher rate of return to an investment in education. If the costs differ, higher earnings may reflect differences in the costs of obtaining additional education as well as a higher rate of return.

Individuals who have attended college and completed some course work, or even an associate's degree, but not attained a bachelor's degree are counted here as having attained a high school (but not a 4-year college) degree.

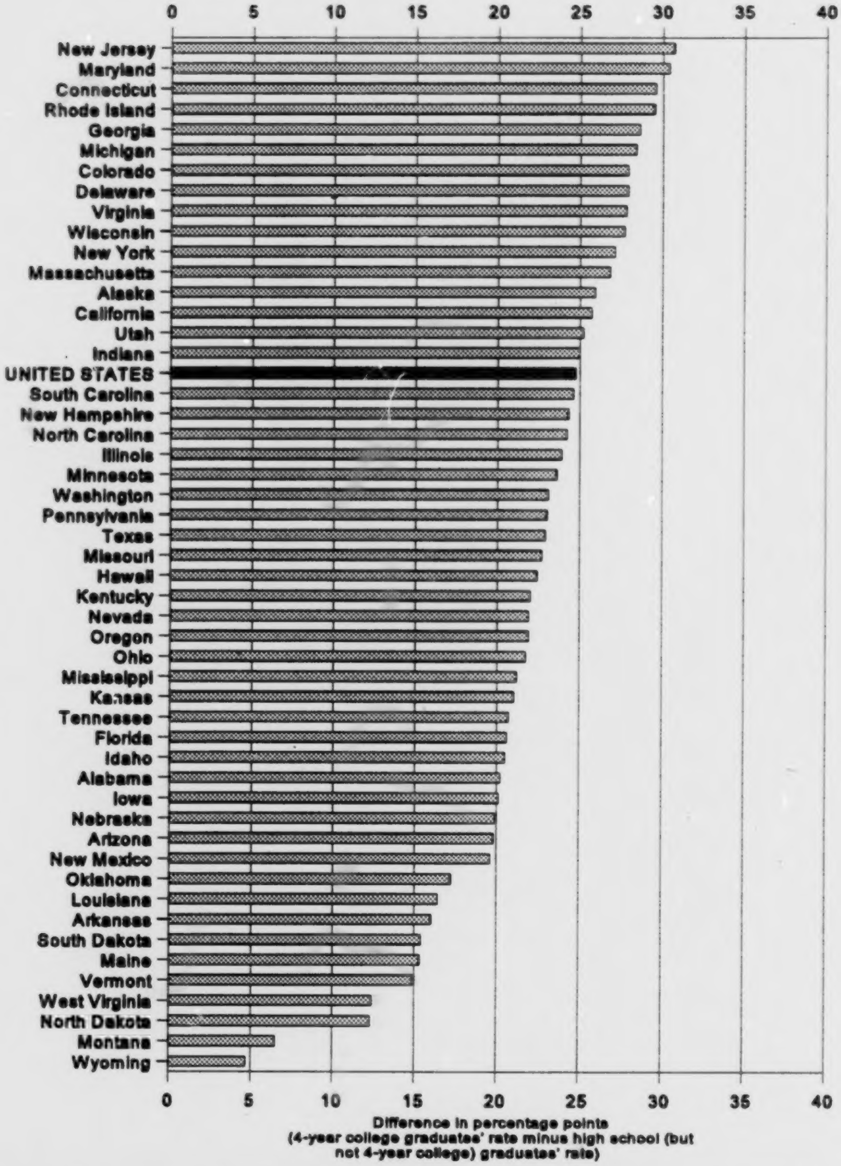
Figure 16a: Difference in the percentage earning at least $5,000 annually between those with high school (but not 4-year college) diplomas and those without high school diplomas, by state: 1993



(High school (but not 4-year college) graduates' rate minus rate for those without a high school diploma)

NOTE: Earnings of adults who are unemployed or not in the labor force, and who may have minimal annual earnings, are included in the calculation of this measure. Sample sizes for the less-than-high-school-diploma category were too small in Alaska, Colorado, Connecticut, Minnesota, Vermont and Washington to permit reliable estimates.
SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, March 1994.

Figure 16b: Difference in the percentage earning at least $40,000 annually between 4-year college and high school (but not 4-year college) graduates, by state: 1993



NOTE: Earnings of adults who are unemployed or not in the labor force, and who may have minimal annual earnings, are included in the calculation of this measure.

SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, March 1994.

Table 16: Percentage of the population ages 25 to 64 earning at least $5,000 or $40,000 annually, and the difference between those with different levels of educational attainment, by earnings level, attainment level, and state: 1993

	Percent earning at least $5,000			Percent earning at least $40,000		
State	Less than a high school diploma	High school (but not a 4-year college) diploma	Difference between high school (but not 4-year college) graduates and those without a high school diploma	High school (but not a 4-year college) diploma	4-year college degree or greater	Difference between 4-year college graduates and high school (but not 4-year college) graduates
UNITED STATES	**45.3**	**68.3**	**23.1 ****	**10.3**	**35.0**	**24.7 ****
Alabama	38.3	69.8	31.4 **	7.6	27.8	20.2 **
Alaska	—	69.4	—	16.3	42.2	25.9 **
Arizona	49.2	67.3	18.1 **	8.2	28.0	19.8 **
Arkansas	48.1	62.6	14.6 *	5.9	21.9	16.0 **
California	45.5	64.0	18.5 **	12.7	38.4	25.7 **
Colorado	—	70.1	—	12.0	39.9	27.9 **
Connecticut	—	73.7	—	13.8	43.5	29.6 **
Delaware	50.7	75.4	24.7 **	10.1	38.0	27.9 **
District of Columbia	53.3	56.9	3.5	7.4	42.9	35.5 **
Florida	47.0	68.5	21.5 **	8.8	29.4	20.6 **
Georgia	50.6	71.5	20.9 **	7.6	36.2	28.6 **
Hawaii	47.3	73.9	26.6 **	11.7	34.1	22.4 **
Idaho	46.8	65.8	19.0 **	6.2	26.7	20.5 **
Illinois	49.0	69.3	20.3 **	11.9	35.8	23.9 **
Indiana	48.5	71.8	23.3 **	9.2	34.1	25.0 **
Iowa	38.6	66.7	28.1 **	5.6	25.7	20.1 **
Kansas	44.5	68.5	24.0 **	8.5	29.5	21.0 **
Kentucky	33.5	62.3	28.8 **	8.5	30.5	22.0 **
Louisiana	28.0	61.5	33.6 **	9.8	26.2	16.4 **
Maine	44.3	63.3	19.0 *	6.8	22.1	15.3 *
Maryland	40.5	75.6	35.1 **	13.4	43.8	30.4 **
Massachusetts	47.0	70.4	23.4 **	11.7	38.6	26.8 **
Michigan	38.9	67.4	28.5 **	13.0	41.4	28.4 **
Minnesota	—	69.1	—	10.1	33.7	23.6 **
Mississippi	39.1	66.1	27.1 **	6.2	27.4	21.2 **
Missouri	46.0	66.8	20.7 **	8.2	30.8	22.7 **
Montana	44.3	60.8	16.5 *	8.0	14.5	6.5
Nebraska	57.0	69.8	12.8	7.8	27.7	19.9 **
Nevada	62.8	74.3	11.5 *	12.1	34.0	21.9 **
New Hampshire	54.6	69.9	15.2 *	10.7	35.0	24.3 **
New Jersey	48.0	69.6	21.6 **	15.5	46.2	30.7 **
New Mexico	39.0	58.9	19.9 **	7.5	27.0	19.6 **
New York	41.4	65.8	24.4 **	10.5	37.6	27.1 **
North Carolina	52.1	72.0	19.9 **	8.4	32.6	24.2 **
North Dakota	40.6	65.1	24.5 **	5.8	18.1	12.3 *
Ohio	43.3	69.8	26.5 **	11.2	32.9	21.7 **
Oklahoma	45.4	64.9	19.5 **	7.3	24.5	17.2 **
Oregon	47.3	66.1	18.8 *	9.8	31.6	21.9 **
Pennsylvania	44.0	68.2	24.2 **	10.5	33.5	23.0 **
Rhode Island	52.7	70.2	17.5 *	8.3	37.7	29.5 **
South Carolina	44.9	69.5	24.6 **	7.9	32.5	24.6 **
South Dakota	53.6	64.1	10.6 *	4.7	20.1	15.4 **
Tennessee	43.2	67.2	24.0 **	7.0	27.7	20.7 **
Texas	49.6	69.7	20.1 **	9.9	32.8	22.9 **
Utah	48.1	68.8	20.7 **	7.6	32.8	25.2 **
Vermont	—	68.9	—	8.7	23.6	14.9 *
Virginia	56.4	75.6	19.2 *	11.3	39.1	27.8 **
Washington	—	69.5	—	12.0	35.1	23.1 **
West Virginia	26.2	59.4	33.2 *	7.2	19.6	12.4 **
Wisconsin	45.1	76.6	31.5 *	7.3	35.0	27.7 **
Wyoming	44.4	65.0	20.5 *	13.0	17.8	4.7

— Sample size too small to permit a reliable estimate.
** Difference is statistically significant at the 95 percent confidence level based on a multiple comparison procedure involving all states and two comparisons between educational attainment levels (K=100).
* Difference is statistically significant at the 95 percent confidence level based on a single comparison procedure (K=2).
NOTE: Earnings of adults who are unemployed or not in the labor force, and who may have minimal annual earnings, are included in the calculation of this measure.

SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, March 1994.

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SIZE, GROWTH, AND OUTPUT OF EDUCATIONAL INSTITUTIONS

Indicator 17: Elementary and secondary school size

A state may have a large number of schools and a small average school size because of a dispersed population, or because of some other, deliberate policy. Schooling can be compartmentalized by level (e.g., preprimary, primary, middle school, junior high, or senior high) or by curricular theme (e.g., academic or vocational). These levels and themes may be separated by school or combined. The more they are kept separate, the greater the number of individual schools and the smaller the average school size is likely to be. Some educators believe there is a negative association between large school size and student achievement and therefore encourage a reduction in the number of students per school. Though smaller schools may have a stronger sense of community, larger schools often can provide broader curricular offerings.

- **In 1993–94, the average size of public elementary and secondary schools varied considerably across the states. Three states—Florida, Hawaii, and Georgia—had averages of over 700 students per school. The average for Montana (181), the state with the smallest average school size, was less than one-fourth that of Florida (797) or Hawaii (749).**

- **Whereas the size of a public school even at the 90th percentile was below 500 students in Nebraska (479), North Dakota (445), South Dakota (430), and Montana (419), about 40 percent of the states had an *average* public school size that exceeded 500 students per school.**

- **Six states did not have an average private school size between 100 and 250 students. Louisiana, the only state with an average private elementary and secondary school size of more than 300 students (318), had an average private school size nearly 6 times larger than the state with the smallest average private school size, Wyoming (55).**

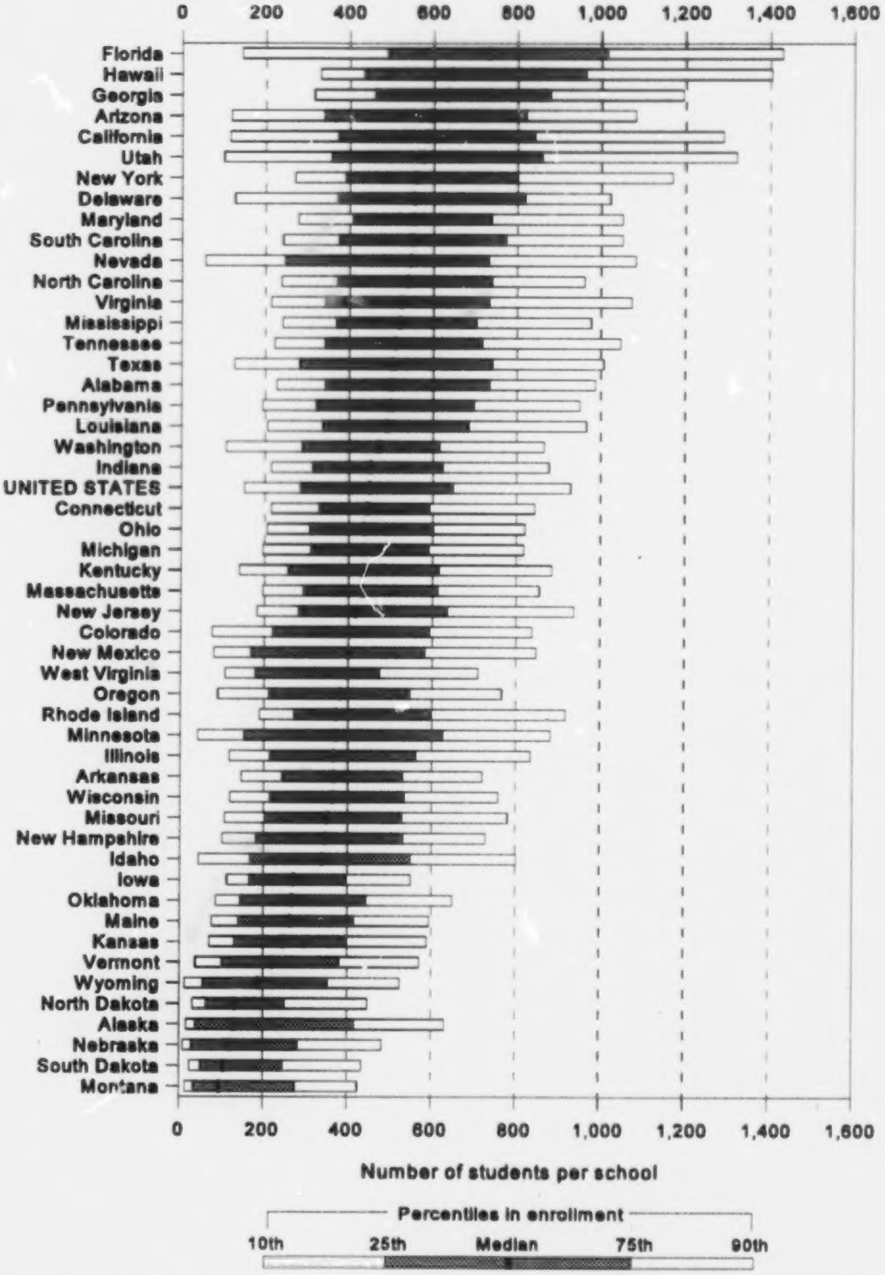
- **Three states—Hawaii, Mississippi, and Louisiana—had an average private school size above 250 students, while all but 4 states—Nebraska, North Dakota, South Dakota, and Montana—had an average public school size above 250 students.**

- **Public school sizes ranged widely within many states, as measured by the difference in school sizes at the 10th percentile and the 90th percentile. Five states had a difference in school sizes of over 1,000 students from the 10th percentile to the 90th percentile, and no state had a difference of less than 400 students.**

Note on interpretation:

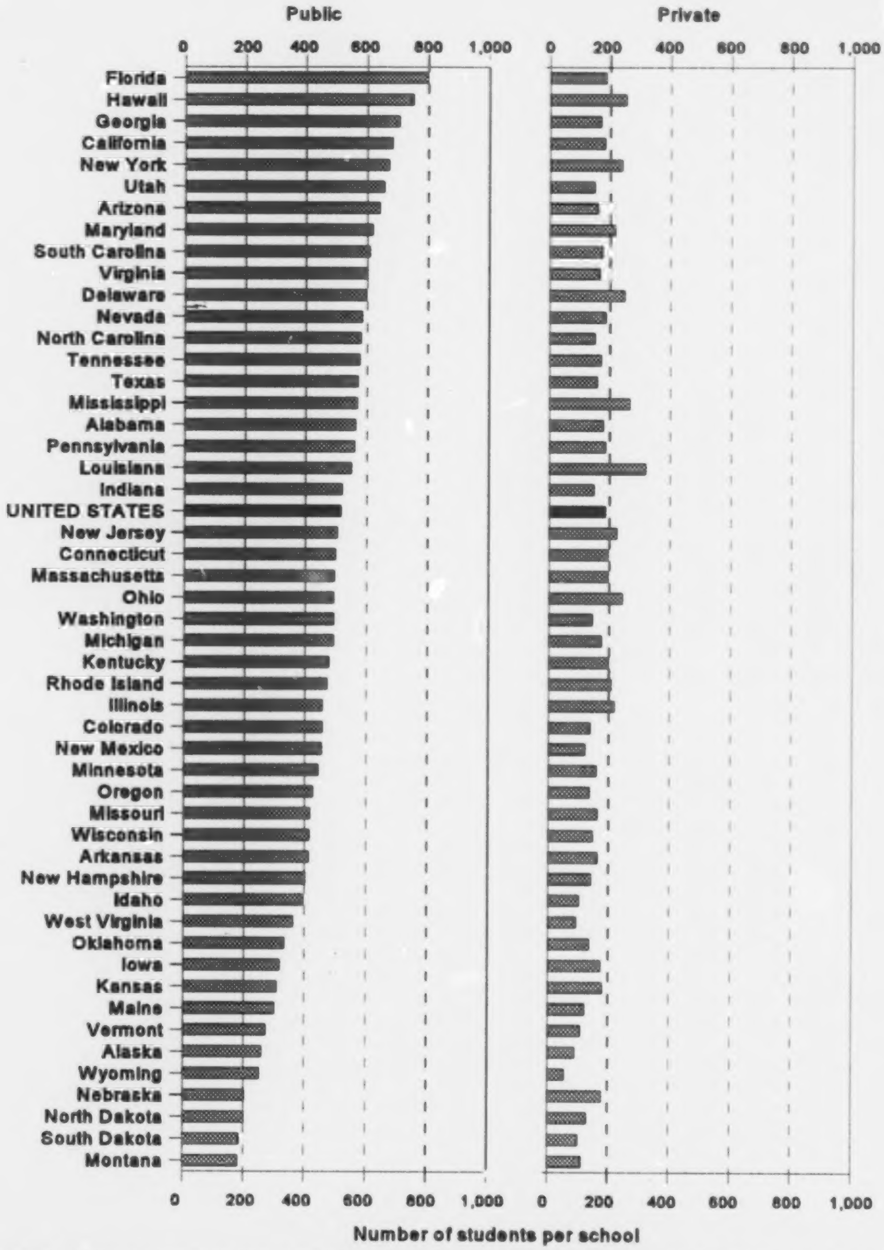
Average private school size was smaller than average public school size in every state. One reason may be that private schools are disproportionately elementary schools and elementary schools are generally smaller than secondary schools.

Figure 17a: Number of students per school in public elementary and secondary schools, by state: School year 1993–94



SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, School File, 1993–94.

Figure 17b: Average size of elementary and secondary schools, by control of school and state: School year 1993–94



NOTE: States are sorted from high to low based on the average size of their *public* schools. Private school data derived from sample survey, see Table 17x in the Statistical Appendix for a listing of standard errors.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data School file, 1993–94; *Digest of Education Statistics, 1995*, Table 62; *Private School Universe Survey, 1993–94*, Table 17.

Table 17: Average school size for public and private elementary and secondary schools and percentiles in school sizes for public schools, by state: 1993-94

	Public schools						
		Percentiles in school sizes					Private schools average (mean)
State	Average (mean)	10th	25th	50th (median)	75th	90th	
UNITED STATES	**518**	**151**	**285**	**449**	**648**	**929**	**185**
Alabama	562	227	344	500	731	984	177
Alaska	260	17	39	129	413	628	89
Arizona	639	118	340	590	817	1,078	160
Arkansas	413	147	243	365	525	715	162
California	681	115	372	583	837	1,287	181
Colorado	455	76	221	401	590	835	137
Connecticut	498	215	331	442	589	840	195
Delaware	596	127	373	553	814	1,019	248
District of Columbia	466	215	324	442	551	729	198
Florida	797	144	491	731	1,011	1,425	185
Georgia	704	316	460	630	875	1,191	168
Hawaii	749	330	434	644	960	1,400	252
Idaho	395	45	169	338	546	798	103
Illinois	456	118	216	365	558	832	218
Indiana	519	215	314	450	620	874	149
Iowa	319	113	168	271	394	548	174
Kansas	309	71	132	245	395	585	180
Kentucky	476	140	257	432	611	882	196
Louisiana	549	206	337	487	681	963	318
Maine	301	77	141	263	411	590	121
Maryland	617	278	408	551	735	1,048	215
Massachusetts	493	196	292	430	607	850	196
Michigan	492	196	311	434	587	815	175
Minnesota	442	43	154	370	622	879	159
Mississippi	568	241	370	519	700	974	265
Missouri	416	107	203	349	525	778	163
Montana	181	14	32	93	272	419	111
Nebraska	203	9	29	119	279	479	177
Nevada	584	56	247	544	727	1,079	185
New Hampshire	402	102	183	346	529	725	141
New Jersey	503	182	283	415	632	935	223
New Mexico	455	80	169	399	579	845	121
New York	670	270	391	558	796	1,165	238
North Carolina	580	238	373	539	736	958	149
North Dakota	201	32	65	131	248	445	128
Ohio	493	205	308	435	598	817	243
Oklahoma	333	86	145	267	441	646	136
Oregon	426	90	213	380	543	763	136
Pennsylvania	559	193	322	499	694	947	185
Rhode Island	471	189	273	370	595	916	207
South Carolina	608	242	375	548	769	1,048	174
South Dakota	185	25	51	106	242	430	100
Tennessee	576	222	343	508	713	1,043	170
Texas	570	126	283	501	737	1,004	156
Utah	655	101	358	572	854	1,317	148
Vermont	272	38	102	221	376	567	107
Virginia	599	214	344	522	729	1,069	164
Washington	492	107	290	469	611	862	144
West Virginia	361	107	178	395	469	705	93
Wisconsin	415	119	216	364	531	756	149
Wyoming	251	12	57	186	350	522	55

NOTE: Private school data are derived from a sample survey, see Table 17x in the Statistical Appendix for a listing of standard errors.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data School File, 1993-94; *Digest of Education Statistics, 1995*, Table 62; *Private School Universe Survey, 1993–94*, Table 17.

Indicator 18: Number and average size of higher education institutions

A state's higher education institutions may be numerous and geographically dispersed, or few and geographically concentrated. They may have small or large enrollments. They may be public (state-, county-, or city-run) or private institutions. Moreover, they may have various instructional themes (e.g., liberal arts, science and engineering, business, or trade and technical) or levels (e.g., certificate programs or associate's, bachelor's, graduate, or professional degree programs). These themes and levels may be separated by institution or combined within an institution. The more they are kept separate, the greater the number of individual institutions and the smaller their average size is likely to be. Smaller institutions may claim to offer students a more personal experience, more direct interaction with instructors, and a greater feeling of community. Larger institutions, however, may realize more economic efficiencies and offer students more curricular choice.

- **In 1993, the average size of public 2-year higher education institutions showed a wide range across states. The average number of students per public 2-year institution ranged from 171 in South Dakota to 8,675 in Rhode Island. Eleven states had an average enrollment level below 1,500 students; six states had an average enrollment above 4,000 students.**

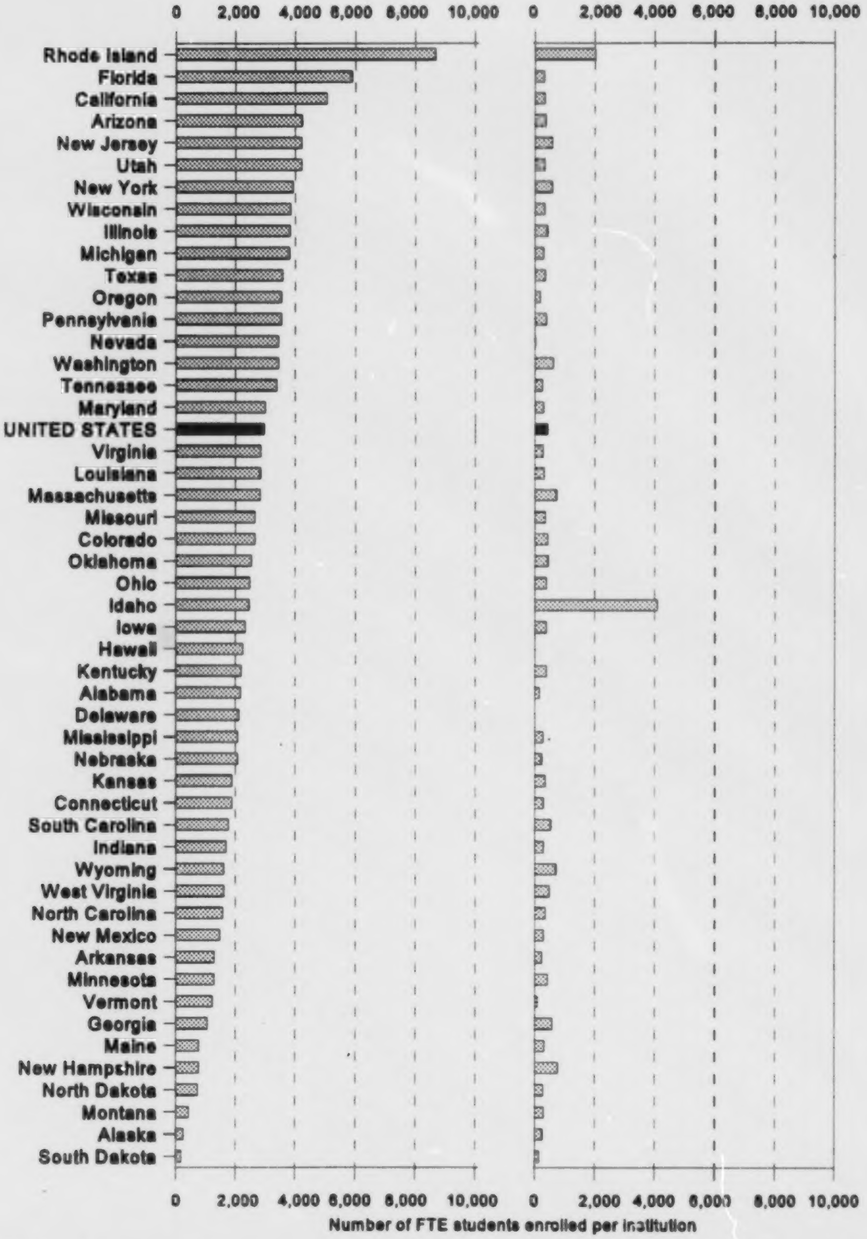
- **Four-year higher education institutions were, for the most part, larger than their 2-year counterparts. The average public 4-year institution size was larger than the average public 2-year institution size in all states but Rhode Island.**

- **The range in average enrollment at public 4-year higher education institutions across states was also wide. The average number of students per institution ranged from 2,865 in Maine to 23,168 in Arizona. Nine states had average enrollment levels of less than 5,000 students; nine states had an average enrollment of over 10,000 students.**

Note on interpretation:

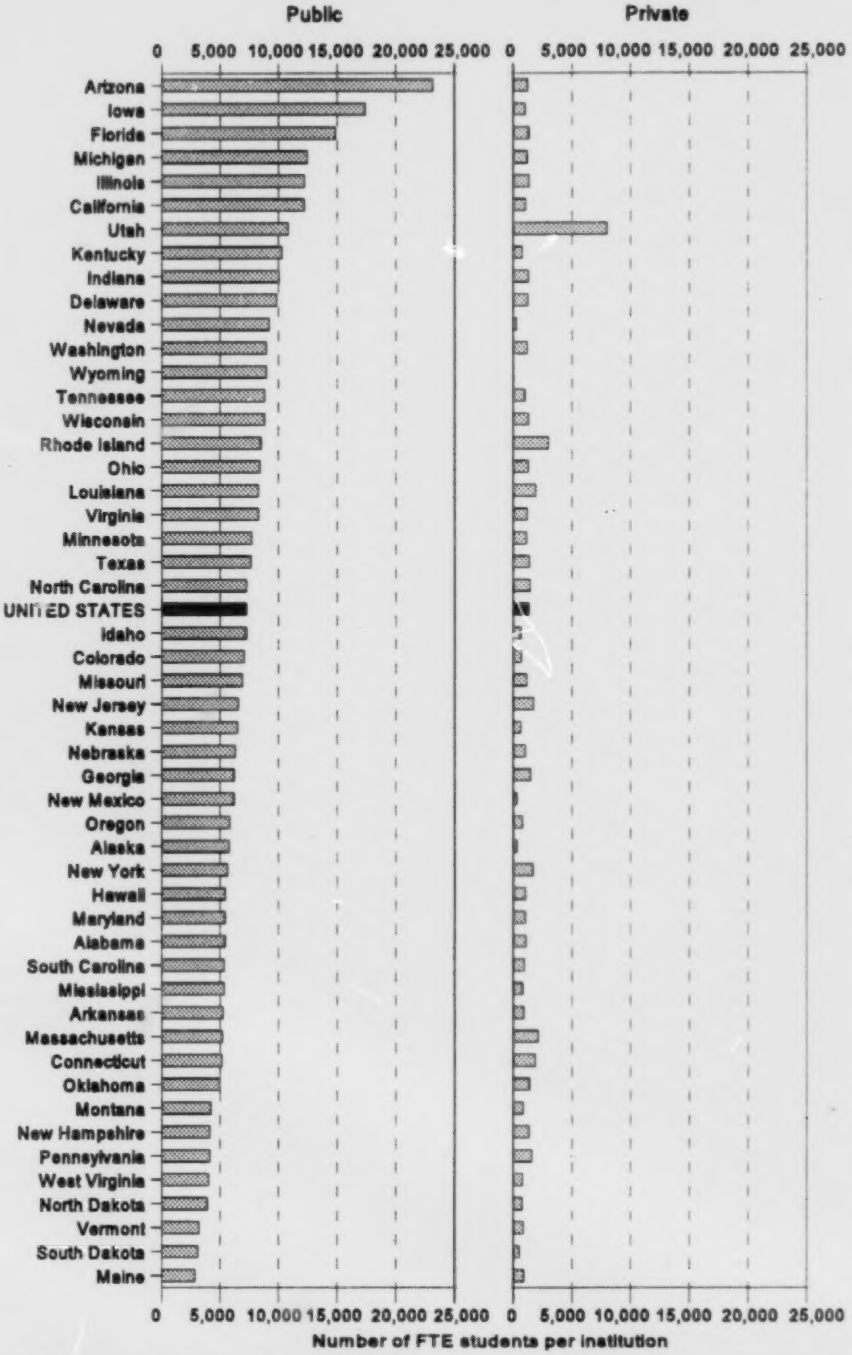
There exists some variation across states with respect to whether certain programs are assigned to 2-year or 4-year higher education institutions. This is true for technical and professional programs in particular. In those states with very small, or virtually non-existent, 2-year sectors, most technical and professional programs will be found in 4-year institutions. In those states with very large 2-year sectors, the converse may be the case.

Figure 18a: Average number of students enrolled per 2-year institution of higher education, by control of institution and state: Academic year 1993–94



SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), *Institutional Characteristics* Survey (based on: *State Comparisons of Education Statistics: 1969–70 to 1993–94*, Table 75); *Fall Enrollment* Survey, 1993–94.

Figure 18b: Average number of students enrolled per 4-year institution of higher education, by control of institution and state: 1993–94



NOTE: States are sorted from high to low based on the average size of *public* institutions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), *Institutional Characteristics* Survey (based on: *State Comparisons of Education Statistics: 1969–70 to 1993–94*, Table 75); *Fall Enrollment* Survey, 1993–94.

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Table 18: Number of higher education institutions and average institution size, by level of education, control of institution, and state: Academic year 1993–94

	2-year				4-year			
	Public		Private		Public		Private	
State	Number of institutions	Average number of students per institutio*	Number of institutions	Average number of students per institution*	Number of institutions	Average number of students per institution*	Number of institutions	Average number of students per institution*
UNITED STATES	**1,009**	**2,956**	**394**	**420**	**603**	**7,237**	**1,565**	**1,338**
Alabama	35	2,171	11	158	18	5,421	17	1,095
Alaska	1	249	1	239	3	5,780	3	311
Arizona	18	4,216	3	359	3	23,168	17	1,236
Arkansas	10	1,287	3	227	10	5,238	10	912
California	108	5,047	34	328	32	12,177	146	1,031
Colorado	15	2,645	9	426	14	7,051	22	712
Connecticut	12	1,877	4	280	8	5,145	19	1,871
Delaware	3	2,102	0	0	2	9,857	4	1,227
District of Columbia	0	0	0	0	2	3,098	16	2,792
Florida	30	5,882	13	309	9	14,863	53	1,313
Georgia	50	1,063	9	571	19	6,207	32	1,481
Hawaii	7	2,239	0	0	3	5,447	6	1,060
Idaho	2	2,462	2	4,087	4	7,232	3	634
Illinois	50	3,811	14	413	12	12,211	91	1,343
Indiana	14	1,697	10	295	14	10,054	39	1,291
Iowa	17	2,317	5	378	3	17,375	35	1,065
Kansas	19	1,880	2	343	10	6,535	19	644
Kentucky	14	2,181	12	384	8	10,297	27	773
Louisiana	6	2,831	2	301	14	8,276	11	1,930
Maine	6	765	5	302	8	2,865	12	903
Maryland	19	2,999	3	289	15	5,428	21	1,066
Massachusetts	17	2,817	13	722	14	5,177	73	2,134
Michigan	30	3,789	7	281	15	12,443	50	1,163
Minnesota	43	1,283	9	426	11	7,694	35	1,158
Mississippi	20	2,078	4	270	9	5,332	12	779
Missouri	16	2,647	10	351	13	6,909	54	1,146
Montana	7	424	2	288	6	4,204	4	837
Nebraska	9	2,068	2	223	7	6,324	15	1,036
Nevada	4	3,430	1	25	2	9,216	2	256
New Hampshire	7	759	4	773	5	4,142	13	1,323
New Jersey	19	4,206	6	572	14	6,567	22	1,726
New Mexico	17	1,471	2	283	6	6,204	7	305
New York	46	3,906	47	570	44	5,635	178	1,696
North Carolina	58	1,570	6	353	17	7,264	39	1,428
North Dakota	9	721	1	264	6	3,900	4	739
Ohio	37	2,476	27	389	25	8,432	67	1,300
Oklahoma	15	2,531	4	432	14	4,947	11	1,362
Oregon	13	3,522	1	182	8	5,852	22	796
Pennsylvania	19	3,520	50	390	45	4,142	102	1,574
Rhode Island	1	8,675	1	2,025	2	8,504	9	3,010
South Carolina	21	1,766	3	529	12	5,358	22	932
South Dakota	1	171	1	130	8	3,095	10	513
Tennessee	14	3,375	10	246	10	8,832	42	976
Texas	65	3,562	13	353	40	7,667	57	1,385
Utah	4	4,198	3	320	5	10,830	4	7,983
Vermont	2	1,232	2	78	4	3,208	14	832
Virginia	24	2,837	12	274	15	8,272	33	1,192
Washington	28	3,430	3	610	8	8,977	22	1,184
West Virginia	3	1,610	2	472	13	4,024	10	820
Wisconsin	17	3,834	5	333	13	8,806	29	1,277
Wyoming	7	1,613	1	700	1	8,956	0	0

* Students are counted in full-time-equivalencies.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), *Institutional Characteristics* Survey (based on: *State Comparisons of Education Statistics: 1969–70 to 1993–94*, Table 75); Integrated Postsecondary Education Data System (IPEDS), *Fall Enrollment* Survey, 1993–94.

Indicator 19: Enrollment in 2-year higher education institutions

This indicator measures enrollment in 2-year institutions of higher education within a state as a proportion of various age groups. Enrollment rates are provided for four age groups (18–21, 22–29, 30–49, and 18–49) and for public and private institutions. Female enrollment as a percentage of the total has also been calculated and broken reported enrollment status (full-time and part-time). Enrollment is influenced not only by "demand"—the number of persons who wish to attend 2-year institutions—but also by "supply"—the number of places available in such institutions. High enrollment levels may reflect a corresponding high value placed on education by a state, or it may reflect an economy dependent on a highly trained workforce. High enrollment levels in 2-year institutions, in particular, may reflect a strong demand for the types of training provided at that level or the use of 2-year institutions to provide the first 2 years of 4-year higher education programs. In any event, state education strategies can produce a greater availability of places in higher education.

- **In the fall of 1993, the enrollment rate in public 2-year institutions in the majority of states included here was relatively higher for part-time than for full-time students. This was true for all age groups except those aged 18 to 21, a typical age group for full-time students. Moreover, this trend did not hold true for the small enrollment in private 2-year institutions, in which full-time students predominated.**

- **Two states, Arizona and California, had enrollment rates at public 2-year institutions among 18- to 49-year-olds of over 6 percent. In contrast, only Idaho had an enrollment rate for this age group of over one percent among private 2-year institutions.**

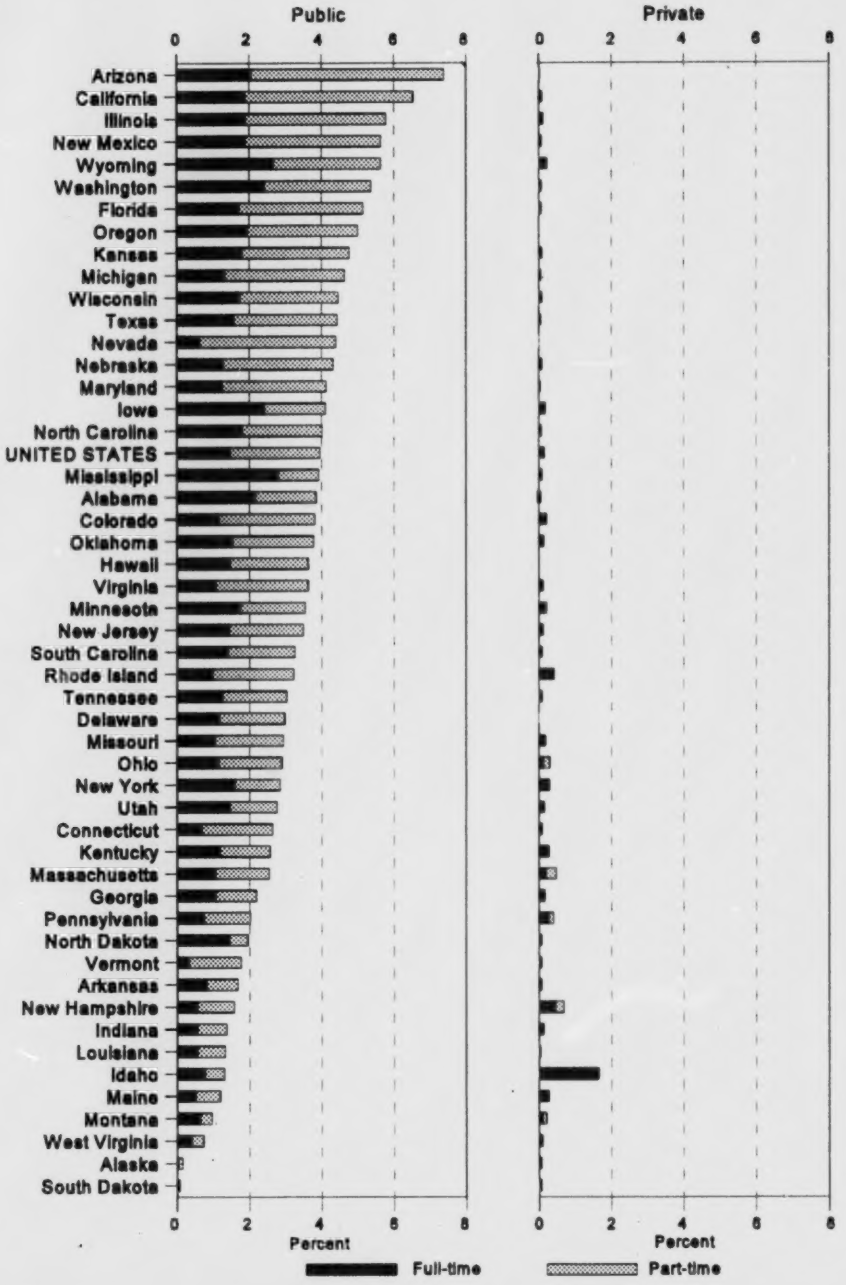
- **Enrollment rates are lower, and part-time enrollment assumes a larger share, for older age cohorts. Whereas only eight states had enrollment rates at or below 5 percent for those aged 18 to 21, no state had a combined (full-time and part-time) enrollment rate of over 5 percent for those aged 30 to 49, the oldest age group represented in this indicator.**

- **In general, females represented the majority in both full-time and part-time enrollment. In only four states (Minnesota, North Dakota, Rhode Island, and Vermont) did females represent less than 50 percent of full-time enrollment, and no state reported a male majority in their part-time enrollment.**

Note on interpretation:

Not all students enrolled in 2-year higher education institutions are between 18 and 49 years old. In 1993, 2.4 percent of enrolled students were under 18 years old, 4.4 percent were 50 years of age or older, and the ages of 1.3 percent were unknown.

Figure 19a: **Percentage of 18- to 49-year-olds enrolled in 2-year higher education institutions, by control of institution, enrollment status, and state: Fall 1993**



SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, *Fall Enrollment* survey, 1993. U.S. Department of Commerce, Bureau of the Census, Population Division, unpublished tables consistent with Press Release CB95-39, issued March 1, 1995.

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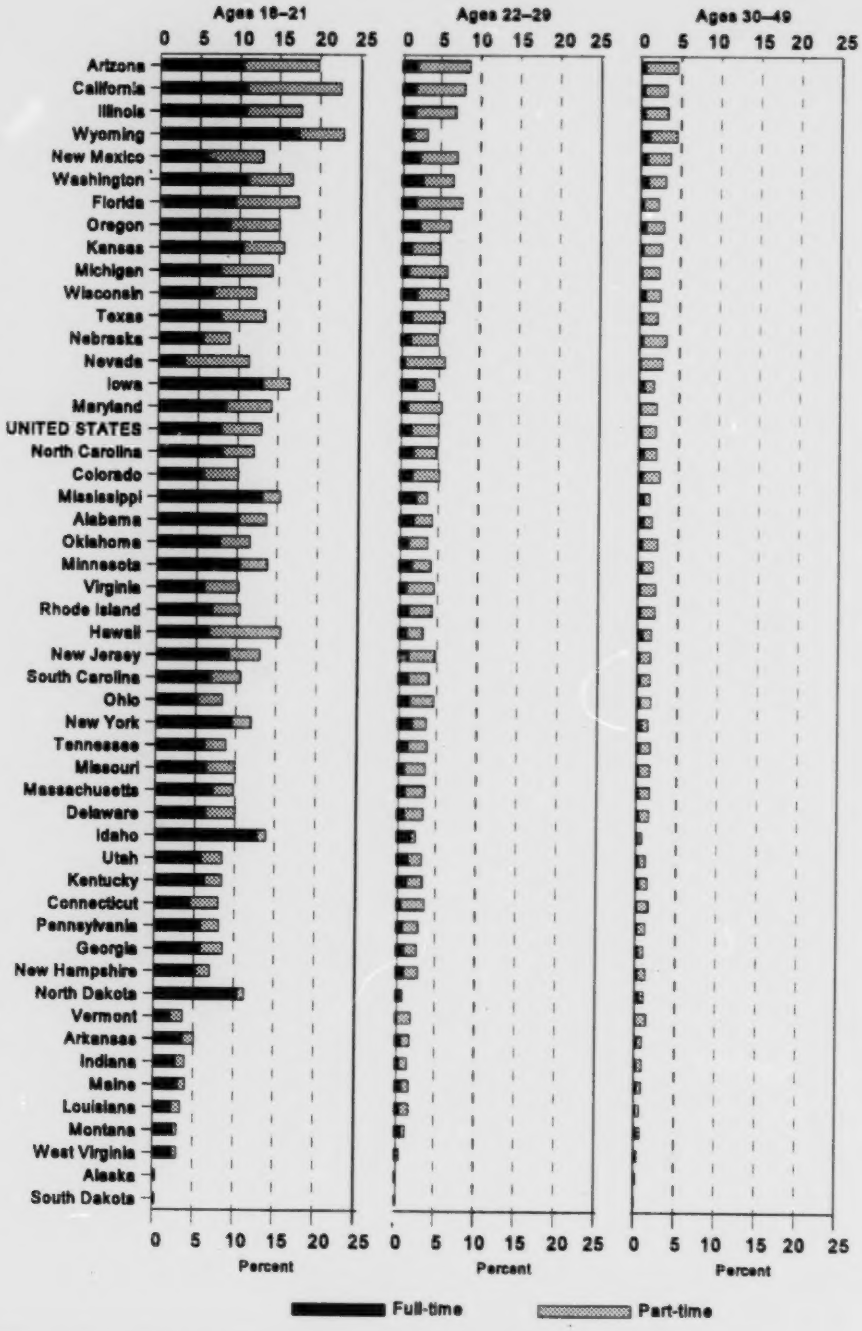
Figure 19b: Percentage enrolled in public and private 2-year higher education institutions, by age group, enrollment status, and state: Fall 1993



NOTE: States are sorted from high to low based on the percent enrolled within the entire 18- to 49-year-old group.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, *Fall Enrollment Survey*, 1993. U.S. Department of Commerce, Bureau of the Census, Population Division, unpublished tables consistent with Press Release CB95-39, issued March 1, 1995.

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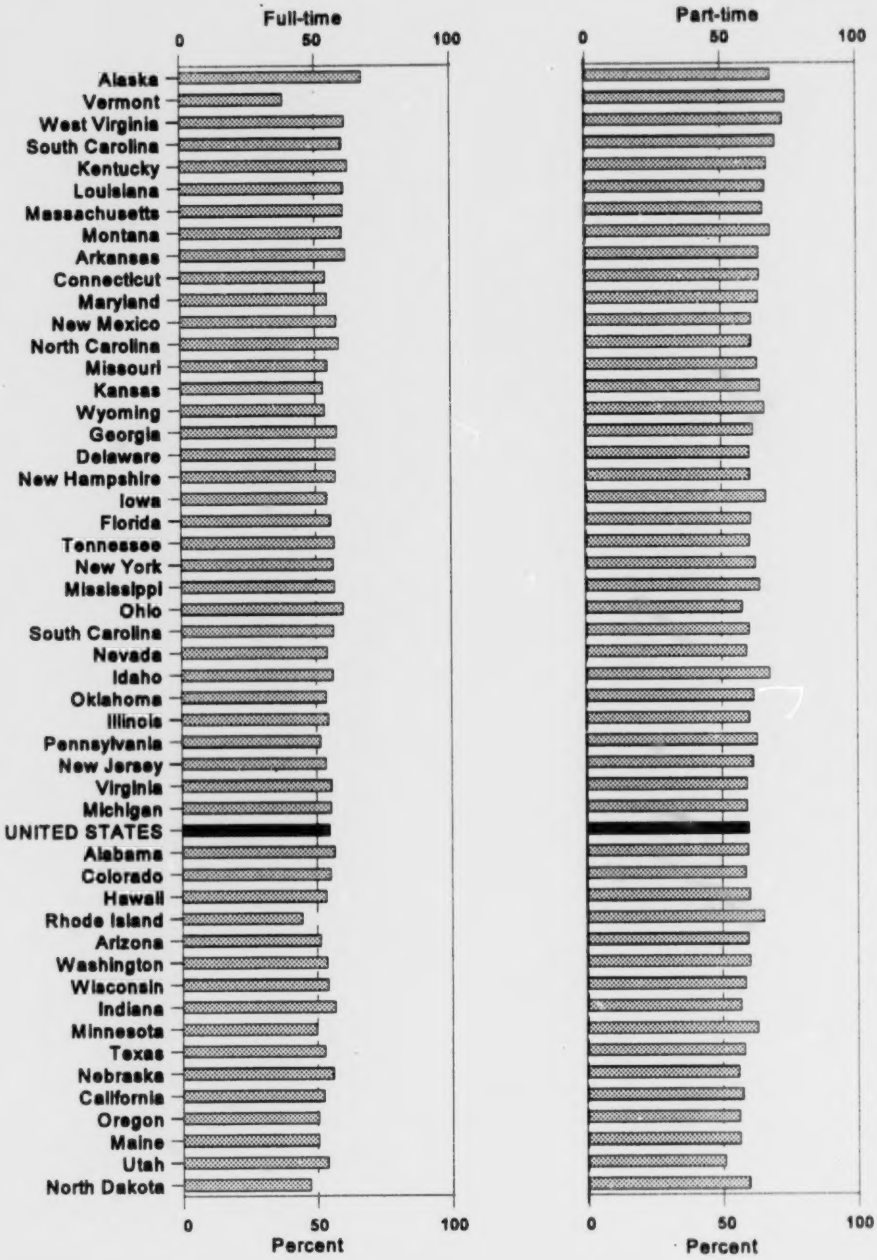
Figure 19c: **Female enrollment in public and private 2-year higher education institutions as a percentage of total enrollment among 18- to 49-year-olds, by enrollment status and state: Fall 1993**



NOTE: States are sorted from high to low based on the percentage female of total enrollment.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, *Fall Enrollment* Survey, 1993.

Table 19a: Percentage of 18- to 49-year-olds enrolled in public and private 2-year higher education institutions, by control of institution, enrollment status, and state: Fall 1993

State	Public			Private		
	Total	Full-time	Part-time	Total	Full-time	Part-time
UNITED STATES	**3.96**	**1.46**	**2.50**	**0.15**	**0.11**	**0.04**
Alabama	3.85	2.17	1.68	0.10	0.08	0.02
Alaska	0.16	0.02	0.13	0.08	0.07	0.01
Arizona	7.38	2.05	5.33	0.02	0.02	0.00
Arkansas	1.67	0.81	0.86	0.07	0.06	0.01
California	6.53	1.87	4.66	0.08	0.07	0.01
Colorado	3.81	1.15	2.66	0.21	0.21	0.00
Connecticut	2.64	0.68	1.96	0.10	0.05	0.04
Delaware	2.98	1.17	1.81	—	—	—
District of Columbia	—	—	—	—	—	—
Florida	5.14	1.72	3.42	0.06	0.06	0.00
Georgia	2.20	1.07	1.13	0.17	0.13	0.04
Hawaii	3.63	1.46	2.17	—	—	—
Idaho	1.31	0.77	0.54	1.64	1.59	0.05
Illinois	5.77	1.90	3.87	0.11	0.09	0.02
Indiana	1.37	0.57	0.80	0.12	0.09	0.04
Iowa	4.10	2.41	1.70	0.17	0.14	0.03
Kansas	4.76	1.80	2.96	0.08	0.06	0.02
Kentucky	2.57	1.18	1.39	0.26	0.24	0.03
Louisiana	1.31	0.57	0.75	0.03	0.03	0.00
Maine	1.19	0.52	0.67	0.28	0.22	0.05
Maryland	4.13	1.24	2.89	0.04	0.03	0.01
Massachusetts	2.54	1.06	1.48	0.49	0.20	0.29
Michigan	4.64	1.32	3.32	0.06	0.03	0.03
Minnesota	3.54	1.74	1.80	0.20	0.15	0.06
Mississippi	3.92	2.80	1.12	0.09	0.08	0.01
Missouri	2.94	1.04	1.90	0.17	0.13	0.04
Montana	0.96	0.64	0.32	0.21	0.10	0.11
Nebraska	4.32	1.27	3.05	0.08	0.05	0.03
Nevada	4.39	0.62	3.78	0.00	0.00	0.00
New Hampshire	1.58	0.56	1.02	0.68	0.44	0.24
New Jersey	3.49	1.43	2.06	0.11	0.08	0.03
New Mexico	5.64	1.90	3.74	0.07	0.07	0.00
New York	2.84	1.59	1.25	0.30	0.26	0.04
North Carolina	4.02	1.80	2.22	0.06	0.06	0.01
North Dakota	1.95	1.43	0.52	0.06	0.06	0.00
Ohio	2.90	1.15	1.75	0.30	0.12	0.18
Oklahoma	3.78	1.53	2.25	0.13	0.10	0.03
Oregon	5.00	1.95	3.05	0.01	0.01	0.00
Pennsylvania	2.02	0.73	1.29	0.40	0.28	0.12
Rhode Island	3.23	0.98	2.25	0.42	0.39	0.03
South Carolina	3.26	1.40	1.86	0.10	0.08	0.01
South Dakota	0.06	0.05	0.02	0.07	0.02	0.04
Tennessee	3.03	1.26	1.78	0.07	0.05	0.02
Texas	4.43	1.58	2.85	0.05	0.05	0.00
Utah	2.76	1.45	1.31	0.14	0.12	0.02
Vermont	1.77	0.33	1.44	0.06	0.05	0.01
Virginia	3.63	1.07	2.56	0.11	0.08	0.03
Washington	5.36	2.41	2.96	0.07	0.07	0.00
West Virginia	0.73	0.40	0.33	0.11	0.10	0.00
Wisconsin	4.45	1.73	2.73	0.08	0.06	0.02
Wyoming	5.63	2.67	2.96	0.23	0.23	0.00

— Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, Fall Enrollment Survey, 1993–94. U.S. Department of Commerce, Bureau of the Census, Population Division, unpublished tables consistent with Press Release CB95-39, issued March 1, 1995.

Table 19b: Percentage enrolled in public and private 2-year higher education institutions, by enrollment status, age group, and state: Fall 1993

	Full-time				Part-time			
State	Ages 18–49	Ages 18–21	Ages 22–29	Ages 30–49	Ages 18–49	Ages 18–21	Ages 22–29	Ages 30–49
UNITED STATES	**1.57**	**7.95**	**1.58**	**0.43**	**2.54**	**5.02**	**3.48**	**1.72**
Alabama	2.25	10.13	2.04	0.70	1.70	3.55	2.29	1.07
Alaska	0.09	0.30	0.14	0.05	0.14	0.07	0.10	0.16
Arizona	2.07	10.49	1.99	0.53	5.33	9.31	6.71	4.02
Arkansas	0.87	3.63	0.86	0.30	0.87	1.48	1.08	0.67
California	1.94	10.91	1.88	0.43	4.67	11.68	6.16	2.83
Colorado	1.36	5.81	1.82	0.50	2.66	4.29	3.39	2.16
Connecticut	0.73	4.44	0.75	0.16	2.01	3.61	2.93	1.42
Delaware	1.17	6.34	1.06	0.37	1.81	3.69	2.38	1.25
District of Columbia	—	—	—	—	—	—	—	—
Florida	1.78	9.41	2.03	0.43	3.42	8.01	5.70	1.92
Georgia	1.20	5.81	1.14	0.37	1.17	2.75	1.59	0.69
Hawaii	1.46	6.62	1.26	0.66	2.17	8.91	1.95	1.11
Idaho	2.36	12.82	1.86	0.27	0.59	1.11	0.66	0.45
Illinois	2.00	10.83	1.80	0.49	3.89	6.86	5.13	2.86
Indiana	0.66	2.78	0.64	0.25	0.84	1.19	1.05	0.69
Iowa	2.55	13.10	2.26	0.65	1.72	3.29	2.23	1.23
Kansas	1.86	10.54	1.48	0.41	2.98	5.09	3.59	2.35
Kentucky	1.42	6.23	1.43	0.45	1.42	2.24	1.99	1.03
Louisiana	0.60	2.32	0.73	0.18	0.75	1.12	1.14	0.51
Maine	0.74	3.10	0.91	0.28	0.72	0.90	0.94	0.62
Maryland	1.27	8.54	1.17	0.22	2.90	5.61	4.22	2.01
Massachusetts	1.26	7.23	1.19	0.33	1.77	2.60	2.44	1.35
Michigan	1.35	7.72	1.12	0.26	3.34	6.49	4.85	2.21
Minnesota	1.89	10.39	1.82	0.51	1.86	3.40	2.32	1.41
Mississippi	2.88	13.09	2.30	0.73	1.13	2.31	1.35	0.74
Missouri	1.17	6.39	1.01	0.29	1.93	3.55	2.65	1.37
Montana	0.74	2.50	0.96	0.35	0.43	0.53	0.48	0.40
Nebraska	1.31	5.61	1.42	0.45	3.09	3.25	3.39	2.94
Nevada	0.62	3.23	0.70	0.20	3.78	8.08	5.02	2.67
New Hampshire	1.00	5.22	1.17	0.32	1.26	1.79	1.78	1.00
New Jersey	1.50	9.07	1.47	0.32	2.09	3.88	3.32	1.37
New Mexico	1.97	6.78	2.45	0.86	3.74	6.15	4.70	2.93
New York	1.85	9.52	1.96	0.51	1.29	2.41	1.81	0.89
North Carolina	1.86	8.07	1.97	0.64	2.23	3.97	2.88	1.62
North Dakota	1.49	10.47	0.66	0.51	0.52	0.87	0.34	0.63
Ohio	1.28	5.20	1.68	0.42	1.92	3.12	2.98	1.35
Oklahoma	1.63	7.81	1.28	0.57	2.28	3.78	2.45	1.89
Oregon	1.96	8.84	2.43	0.71	3.05	6.22	3.96	2.23
Pennsylvania	1.01	5.82	0.94	0.20	1.41	2.27	2.02	1.03
Rhode Island	1.37	6.93	1.42	0.39	2.28	3.55	2.93	1.78
South Carolina	1.49	6.86	1.42	0.42	1.88	3.70	2.64	1.19
South Dakota	0.07	0.18	0.11	0.03	0.06	0.09	0.06	0.05
Tennessee	1.31	6.15	1.41	0.36	1.80	2.66	2.48	1.37
Texas	1.63	7.82	1.58	0.44	2.85	5.46	4.06	1.85
Utah	1.57	5.85	1.55	0.42	1.33	2.58	1.76	0.79
Vermont	0.38	2.10	0.39	0.10	1.44	1.57	1.69	1.33
Virginia	1.15	5.92	1.15	0.32	2.59	4.29	3.46	1.93
Washington	2.48	11.09	2.87	0.97	2.96	5.53	3.82	2.22
West Virginia	0.50	2.43	0.41	0.14	0.33	0.57	0.35	0.27
Wisconsin	1.79	6.85	2.26	0.72	2.74	5.24	3.86	1.91
Wyoming	2.90	17.32	1.61	1.12	2.96	5.59	1.79	3.40

— Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, Fall Enrollment Survey, 1993–94. U.S. Department of Commerce, Bureau of the Census, Population Division, unpublished tables consistent with Press Release CB95-39, issued March 1, 1995.

Table 19c: Female enrollment in public and private 2-year higher education institutions as a percentage of enrollment among 18- to 49-year-olds, by enrollment status and state: Fall 1993

State	Percent of total enrollment	Percent of full-time enrollment	Percent of part-time enrollment
UNITED STATES	**57.9**	**54.7**	**59.8**
Alabama	57.8	56.5	59.6
Alaska	68.1	67.3	68.6
Arizona	57.3	51.3	59.6
Arkansas	62.6	61.2	64.1
California	55.9	52.2	57.4
Colorado	57.5	55.0	58.8
Connecticut	61.4	53.7	64.3
Delaware	59.2	57.2	60.5
District of Columbia	—	—	—
Florida	58.9	55.4	60.8
Georgia	59.7	57.8	61.7
Hawaii	57.4	53.4	60.1
Idaho	58.4	56.1	67.7
Illinois	58.2	54.4	60.1
Indiana	56.6	56.5	56.8
Iowa	59.0	54.0	66.4
Kansas	60.0	52.7	64.5
Kentucky	64.5	62.1	67.0
Louisiana	63.8	60.5	66.4
Maine	53.4	50.4	56.5
Maryland	61.0	54.4	63.8
Massachusetts	63.4	60.4	65.5
Michigan	58.0	55.3	59.1
Minnesota	56.3	49.7	62.9
Mississippi	58.8	56.7	64.0
Missouri	60.0	54.3	63.4
Montana	63.0	59.9	68.3
Nebraska	56.0	55.8	56.0
Nevada	58.5	54.0	59.2
New Hampshire	59.1	57.2	60.6
New Jersey	58.1	53.4	61.4
New Mexico	60.1	57.9	61.3
New York	58.9	56.3	62.6
North Carolina	60.1	58.7	61.2
North Dakota	50.4	47.2	59.7
Ohio	58.5	60.0	57.5
Oklahoma	58.3	53.6	61.7
Oregon	53.9	50.3	56.2
Pennsylvania	58.1	51.4	63.0
Rhode Island	57.4	44.4	65.3
South Carolina	58.5	56.3	60.2
South Dakota	64.5	59.8	70.2
Tennessee	58.9	56.9	60.4
Texas	56.2	52.8	58.2
Utah	52.4	53.7	50.9
Vermont	66.5	38.2	74.0
Virginia	58.0	55.4	59.2
Washington	57.2	53.5	60.3
West Virginia	65.7	61.0	72.9
Wisconsin	56.7	54.0	58.5
Wyoming	59.7	53.4	65.9

— Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, Fall Enrollment Survey, 1993–94.

Indicator 20: Enrollment in 4-year higher education institutions

This indicator measures enrollment in 4-year institutions of higher education within a state as a proportion of various age groups. Enrollment rates are provided for four age groups (18–21, 22–29, 30–49, and 18–49) and for public and private institutions. Female enrollment as a percentage of the total has also been calculated and broken down by enrollment status (full-time and part-time). As with 2-year institutions, 4-year enrollment levels depend upon both the supply of and demand for 4-year higher education programs. However, enrollment levels at 4-year institutions in one state can be affected by the supply and demand in other states, as students are free to migrate across state lines to attend college.

- **In the fall of 1993, all states except Alaska had relatively higher full-time than part-time enrollment rates in public 4-year institutions. This was true for all age groups except those aged 30 to 49, in which part-time enrollment was predominant. This pattern was similar to that in public 2-year institutions in that part-time enrollment represented a larger proportion of total enrollment in the older age groups. The public 4-year pattern was different from that in public 2-year institutions, however, in that full-time enrollment generally exceeded part-time enrollments in 4-year institutions.**

- **Two states, Rhode Island and Vermont, had full-time enrollment rates of over 50 percent for those aged 18 to 21.**

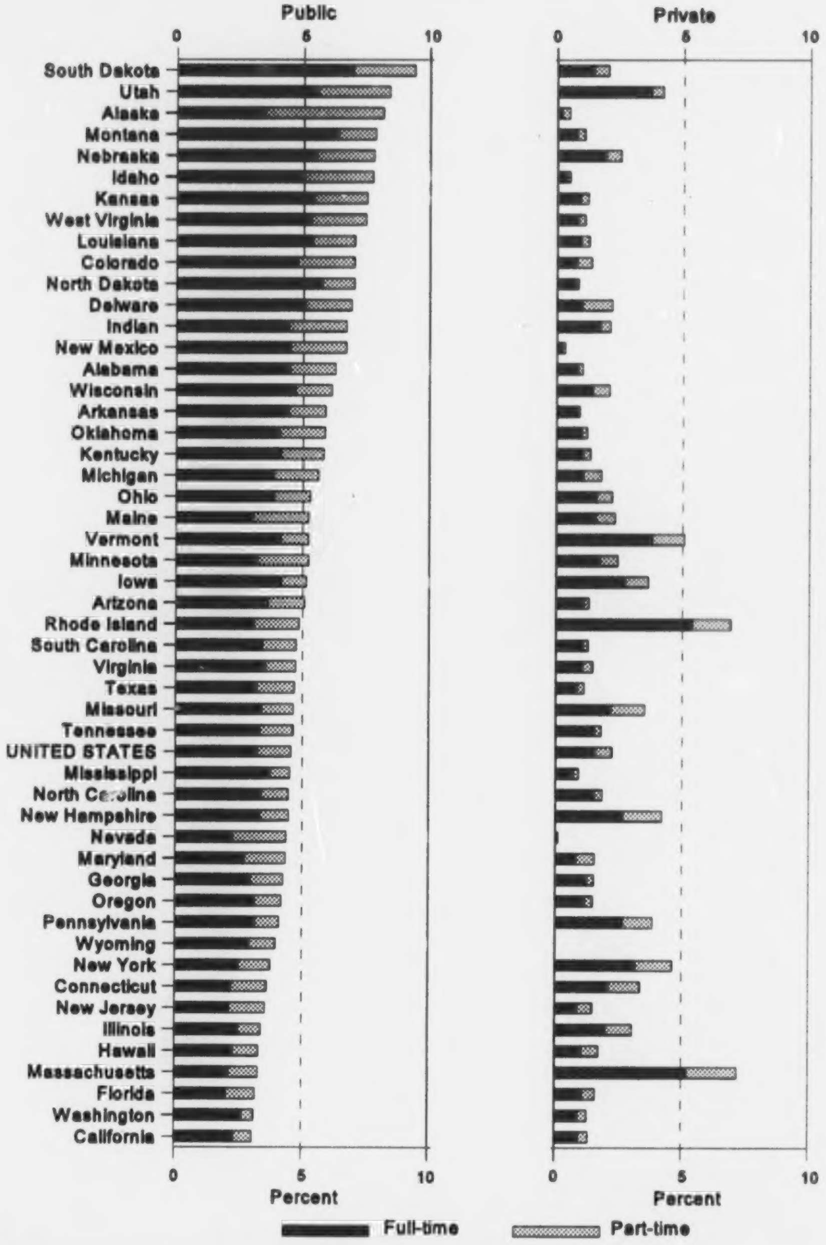
- **As was found with 2-year institutions, enrollment rates in 4-year institutions were lower in older age cohorts. In every state, both full-time and total (full-time plus part-time) enrollment rates declined between the 18 to 21 age group and the 22 to 29 age group. Full-time and total enrollment rates declined again between the 22 to 29 age group and the 30 to 49 age group in every state.**

- **Females comprised a majority of part-time enrollment in every state. They comprised a majority of full-time enrollment in 45 states.**

Note on interpretation:

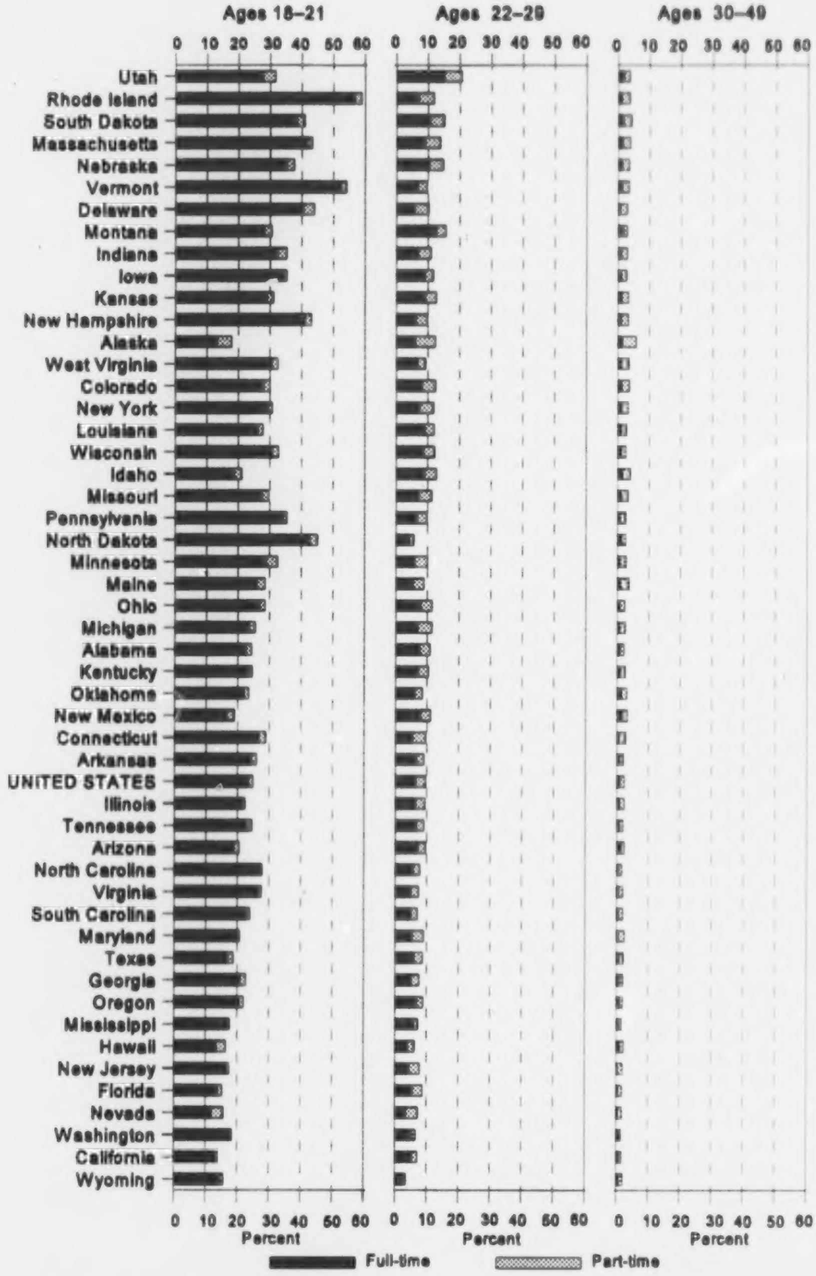
Not all students enrolled in 4-year higher education institutions are between 18 and 49 years old. In 1993, 1.3 percent of enrolled students were under 18 years old, 2.0 percent were 50 years of age or older, and the ages of 2.1 percent were unknown.

Figure 20a: **Percentage of 18- to 49-year-olds enrolled in public and private 4-year higher education institutions, by control of institution, enrollment status, and state: Fall 1993**



SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, *Fall Enrollment* Survey, 1993. U.S. Department of Commerce, Bureau of the Census, Population Divison, unpublished tables consistent with Press Release CB95-39, issued March 1, 1995.

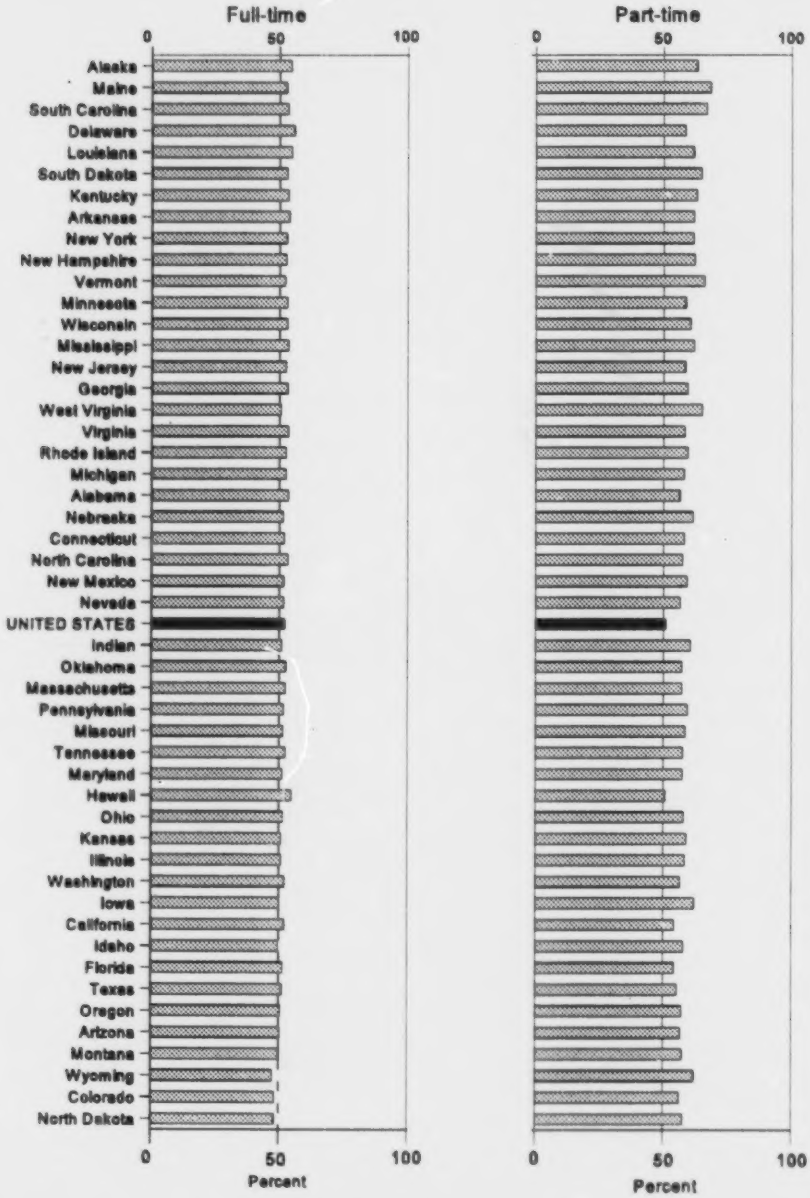
Figure 20b: Percentage enrolled in public and private 4-year higher education institutions, by age group, enrollment status, and state: Fall 1993



NOTE: States are sorted from high to low based on the percentage enrolled within the entire 18- to 49-year-old group.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, *Fall Enrollment* Survey, 1993. U.S. Department of Commerce, Bureau of the Census, Population Division, unpublished tables consistent with Press Release CB95-39, issued March 1, 1995.

Figure 20c: Female enrollment in public and private 4-year higher education institutions as a percentage of total enrollment among 18- to 49-year-olds, by enrollment status, and state: Fall 1993



NOTE: States are sorted from high to low based on the percentage female of total enrollment.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, *Fall Enrollment* Survey, 1993.

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Table 20a: Percentage of 18- to 49-year-olds enrolled in public and private 4-year higher education institutions, by control of institution, enrollment status, and state: Fall 1993

	Public			Private		
State	Total	Full-time	Part-time	Total	Full-time	Part-time
UNITED STATES	**4.55**	**3.21**	**1.34**	**2.22**	**1.57**	**0.65**
Alabama	6.26	4.47	1.80	1.02	0.85	0.17
Alaska	8.15	3.45	4.70	0.49	0.18	0.31
Arizona	5.07	3.63	1.44	1.30	1.10	0.20
Arkansas	5.89	4.41	1.48	0.92	0.83	0.09
California	3.05	2.33	0.72	1.33	0.94	0.39
Colorado	7.01	4.75	2.26	1.37	0.77	0.60
Connecticut	3.61	2.20	1.41	3.35	2.11	1.24
Delaware	6.90	5.08	1.82	2.19	0.98	1.21
District of Columbia	3.20	1.18	2.02	21.83	14.31	7.52
Florida	3.17	2.02	1.15	1.60	1.08	0.52
Georgia	4.26	2.96	1.30	1.54	1.26	0.27
Hawaii	3.31	2.29	1.02	1.74	1.05	0.68
Idaho	7.74	5.03	2.72	0.49	0.36	0.13
Illinois	3.40	2.49	0.91	3.05	1.99	1.05
Indiana	6.70	4.40	2.30	2.12	1.74	0.38
Iowa	5.12	4.16	0.97	3.62	2.72	0.90
Kansas	7.50	5.41	2.10	1.22	0.91	0.31
Kentucky	5.81	4.14	1.67	1.34	1.04	0.30
Louisiana	7.03	5.35	1.68	1.26	0.97	0.30
Maine	5.24	3.06	2.18	2.32	1.56	0.76
Maryland	4.35	2.72	1.63	1.55	0.83	0.72
Massachusetts	3.28	2.11	1.17	7.21	5.19	2.01
Michigan	5.62	3.82	1.80	1.77	1.06	0.71
Minnesota	5.23	3.19	2.04	2.44	1.73	0.70
Mississippi	4.50	3.71	0.79	0.92	0.68	0.24
Missouri	4.65	3.37	1.28	3.53	2.18	1.35
Montana	7.85	6.33	1.52	1.09	0.78	0.31
Nebraska	7.78	5.50	2.28	2.53	1.94	0.59
Nevada	4.35	2.25	2.11	0.10	0.07	0.03
New Hampshire	4.47	3.30	1.17	4.21	2.65	1.56
New Jersey	3.55	2.13	1.42	1.47	0.87	0.60
New Mexico	6.70	4.49	2.21	0.33	0.22	0.11
New York	3.75	2.49	1.26	4.61	3.15	1.47
NorthCarolina	4.47	3.38	1.09	1.84	1.54	0.31
North Dakota	7.01	5.72	1.29	0.84	0.72	0.12
Ohio	5.29	3.88	1.41	2.20	1.57	0.63
Oklahoma	5.86	4.08	1.78	1.21	0.98	0.24
Oregon	4.20	3.13	1.06	1.48	1.17	0.31
Pennsylvania	4.11	3.15	0.95	3.85	2.67	1.18
Rhode Island	4.86	3.07	1.79	6.91	5.37	1.54
South Carolina	4.75	3.42	1.33	1.27	1.07	0.20
South Dakota	9.40	6.96	2.44	2.03	1.44	0.59
Tennessee	4.63	3.30	1.33	1.80	1.54	0.27
Texas	4.68	3.19	1.49	1.13	0.84	0.28
Utah	8.41	5.54	2.87	4.18	3.69	0.49
Vermont	5.24	4.13	1.11	5.07	3.76	1.31
Virginia	4.73	3.53	1.20	1.45	1.06	0.39
Washington	3.14	2.64	0.49	1.30	0.93	0.37
West Virginia	7.49	5.28	2.20	1.13	0.86	0.26
Wisconsin	6.14	4.69	1.45	2.09	1.41	0.69
Wyoming	3.94	2.92	1.03	—	—	—

— Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, Fall Enrollment Survey, 1993–94. U.S. Department of Commerce, Bureau of the Census, Population Division, unpublished tables consistent with Press Release CB95-39, issued March 1, 1995.

Table 20b: Percentage enrolled in public and private 4-year higher education institutions, by enrollment status, age group, and state: Fall 1993

	Full-time				Part-time			
State	Ages 18–49	Ages 18–21	Ages 22–29	Ages 30–49	Ages 18–49	Ages 18–21	Ages 22–29	Ages 30–49
UNITED STATES	**4.78**	**23.29**	**6.41**	**0.82**	**1.99**	**1.62**	**3.21**	**1.58**
Alabama	5.32	22.40	7.58	0.85	1.97	1.96	3.33	1.41
Alaska	3.63	12.92	5.85	1.35	5.01	4.88	6.53	4.54
Arizona	4.73	18.50	7.03	1.21	1.64	2.02	2.57	1.18
Arkansas	5.24	24.12	6.43	0.81	1.58	1.82	2.66	1.10
California	3.27	12.96	5.27	0.75	1.10	0.87	1.84	0.83
Colorado	5.52	27.82	8.03	1.16	2.86	2.11	4.23	2.51
Connecticut	4.30	26.51	5.31	0.56	2.65	2.32	4.35	2.07
Delaware	6.07	40.29	5.60	0.59	3.03	3.63	4.48	2.31
District of Columbia	15.50	72.38	21.94	3.37	9.54	5.95	12.98	8.29
Florida	3.10	13.78	5.32	0.60	1.68	1.36	3.34	1.19
Georgia	4.22	20.73	5.10	0.78	1.57	1.92	2.47	1.10
Hawaii	3.34	13.14	4.04	1.10	1.70	3.10	2.03	1.23
Idaho	5.39	18.46	8.82	1.37	2.84	2.55	3.90	2.53
Illinois	4.48	21.30	6.31	0.76	1.96	1.07	3.11	1.67
Indiana	6.14	32.29	6.73	0.85	2.68	2.93	4.21	2.03
Iowa	6.88	34.05	8.84	0.95	1.87	1.21	2.70	1.68
Kansas	6.32	28.89	9.03	1.13	2.41	2.08	3.44	2.07
Kentucky	5.18	23.13	6.98	0.86	1.97	1.30	3.34	1.57
Louisiana	6.31	26.15	8.86	1.09	1.98	1.63	3.20	1.56
Maine	4.62	25.75	5.15	0.82	2.95	2.74	3.74	2.71
Maryland	3.56	19.68	5.13	0.56	2.35	1.04	3.99	1.93
Massachusetts	7.30	41.65	8.80	1.17	3.18	1.64	4.94	2.68
Michigan	4.88	23.42	6.84	0.74	2.51	1.88	4.66	1.82
Minnesota	4.92	28.68	5.74	0.67	2.74	3.74	4.24	1.95
Mississippi	4.39	16.89	5.77	0.75	1.03	0.68	1.41	0.93
Missouri	5.56	27.39	7.10	1.00	2.62	2.14	4.05	2.17
Montana	7.11	27.95	12.35	1.66	1.83	2.48	3.24	1.29
Nebraska	7.44	35.11	10.14	1.13	2.87	2.50	4.47	2.36
Nevada	2.32	11.81	3.49	0.46	2.14	3.68	3.67	1.33
New Hampshire	5.95	40.80	5.90	0.88	2.73	2.30	3.92	2.39
New Jersey	3.00	16.53	4.35	0.37	2.02	0.88	3.38	1.70
New Mexico	4.71	16.33	7.72	1.36	2.32	2.41	3.28	1.96
New York	5.63	29.15	7.17	1.03	2.73	1.52	4.50	2.22
North Carolina	4.92	26.78	5.38	0.59	1.40	1.06	2.37	1.05
North Dakota	6.44	42.64	4.24	1.27	1.41	2.33	1.29	1.34
Ohio	5.45	26.72	7.73	0.77	2.05	1.70	3.66	1.58
Oklahoma	5.06	21.67	5.91	1.27	2.01	1.67	2.55	1.80
Oregon	4.30	20.48	6.63	0.92	1.38	1.50	2.21	1.08
Pennsylvania	5.82	34.04	6.43	0.69	2.13	1.43	3.42	1.76
Rhode Island	8.44	56.55	6.83	0.87	3.33	2.30	4.97	2.79
South Carolina	4.50	22.67	4.96	0.61	1.53	1.21	2.12	1.34
South Dakota	8.40	38.33	10.51	1.47	3.03	2.45	4.47	2.61
Tennessee	4.84	22.94	6.45	0.81	1.60	1.46	2.60	1.23
Texas	4.03	16.90	5.78	0.80	1.77	1.75	2.95	1.30
Utah	9.23	27.48	14.84	1.62	3.36	4.16	5.66	2.05
Vermont	7.89	52.12	6.50	1.13	2.42	1.94	3.07	2.26
Virginia	4.59	26.52	4.94	0.59	1.59	0.90	2.45	1.34
Washington	3.57	17.64	5.14	0.76	0.86	0.75	1.31	0.72
West Virginia	6.14	30.44	6.43	0.91	2.47	2.01	2.72	2.44
Wisconsin	6.10	30.69	8.46	0.89	2.14	2.04	3.61	1.65
Wyoming	2.92	14.58	2.74	0.78	1.03	1.08	0.73	1.26

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, *Fall Enrollment Survey*, 1993-94. U.S. Department of Commerce, Bureau of the Census, Population Division, unpublished tables consistent with Press Release CB95-39, issued March 1, 1995.

Table 20c: Female enrollment in public and private 4-year higher education institutions as a percentage of enrollment among 18- to 49-year-olds, by enrollment status and state: Fall 1993

State	Percent of total enrollment	Percent of full-time enrollment	Percent of part-time enrollment
UNITED STATES	53.9	**52.0**	**58.4**
Alabama	54.2	53.4	56.4
Alaska	59.5	54.6	63.1
Arizona	52.0	50.4	56.8
Arkansas	55.8	54.0	61.8
California	52.6	52.0	54.2
Colorado	50.9	48.2	56.2
Connecticut	54.2	51.9	58.0
Delaware	56.7	55.8	58.5
District of Columbia	55.3	55.0	55.8
Florida	52.4	51.4	54.2
Georgia	54.8	53.1	59.5
Hawaii	53.3	54.7	50.6
Idaho	52.4	49.6	57.8
Illinois	53.1	50.8	58.3
Indiana	53.8	50.9	60.5
Iowa	52.6	50.1	62.0
Kansas	53.1	50.8	59.0
Kentucky	56.0	53.4	63.0
Louisiana	56.5	54.8	61.8
Maine	58.7	52.7	68.2
Maryland	53.6	51.2	57.3
Massachusetts	53.8	52.3	57.1
Michigan	54.4	52.6	58.0
Minnesota	55.0	52.9	58.6
Mississippi	55.0	53.3	61.8
Missouri	53.7	51.4	58.5
Montana	51.5	50.0	57.4
Nebraska	54.2	51.5	61.4
Nevada	54.0	51.6	56.6
New Hampshire	55.6	52.5	62.2
New Jersey	54.9	52.5	58.4
New Mexico	54.1	51.6	59.3
New York	55.6	52.7	61.8
North Carolina	54.1	53.2	57.4
North Dakota	49.9	48.2	57.7
Ohio	53.2	51.5	57.9
Oklahoma	53.8	52.4	57.1
Oregon	52.2	50.6	57.2
Pennsylvania	53.7	51.7	59.4
Rhode Island	54.4	52.5	59.4
South Carolina	56.9	53.5	66.8
South Dakota	56.2	53.0	64.9
Tennessee	53.6	52.3	57.6
Texas	52.4	51.1	55.5
Utah	49.5	49.1	50.6
Vermont	55.3	52.1	65.8
Virginia	54.7	53.5	58.2
Washington	53.0	52.1	56.5
West Virginia	54.7	50.6	65.0
Wisconsin	55.0	53.1	60.4
Wyoming	51.2	47.4	62.0

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, Fall Enrollment Survey, 1993–94.

CLIMATE, CLASSROOMS, AND DIVERSITY IN EDUCATIONAL INSTITUTIONS

Indicator 21: Ethnic composition of the student population in public elementary and secondary schools

The ethnic and racial composition of the student population may contribute to the degree of heterogeneity of language and culture in our nation's schools. While a variety of backgrounds and interests of students can enhance the learning environment, it can also create new or increased challenges for the schools. Accommodating different cultural assumptions and sensitivities and their interactions can be time- and resource-intensive. Moreover, many minority students come from poor or non-English language backgrounds and may be at a greater risk of not succeeding in school than other children.

- **In 1992–93, the percentage of minority students in public elementary and secondary schools exceeded 50 percent in five states—Mississippi, Texas, California, New Mexico, and Hawaii—with the percentage of minority students in Hawaii exceeding 75 percent. Conversely, four states had minority student populations of less than 5 percent, with the percentages in Maine (2.4 percent) and Vermont (2.5 percent) being less than one-thirtieth of Hawaii's.**

- **The percentage of black students in public elementary and secondary schools ranged from 0.3 percent in Idaho to 51 percent in Mississippi. Schools in 9 states had greater than 25 percent black students, whereas schools in 8 states had student populations of less than 1 percent black.**

- **The 4 U.S. states bordering Mexico all had Hispanic student populations greater than 27 percent. The states with the next largest concentration of Hispanic students—Colorado and New York—had 17 percent Hispanic students.**

- **Hawaii was the only state where Asian and Pacific Islanders made up more than 15 percent of the student population (68 percent). California, the state with the next highest percentage (11 percent), had nearly twice the proportion of Asian and Pacific Islanders as Washington, the state with the third highest percentage (6 percent).**

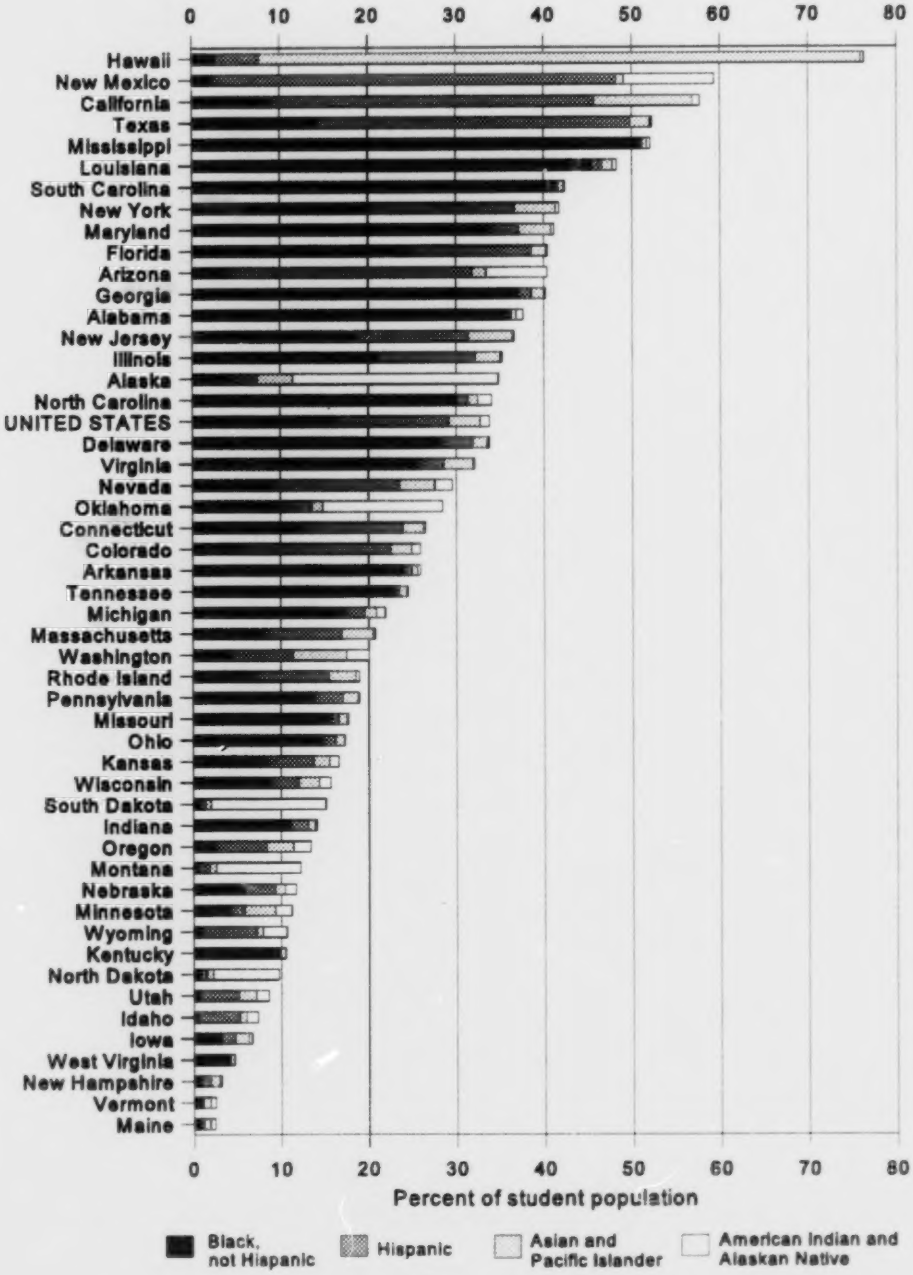
- **American Indians and Alaskan Natives made up less than 1 percent of the student population in the majority of states. In only seven states did American Indians and Alaskan Natives comprise more than 3 percent of the student population. In four of these states—Alaska, Oklahoma, South Dakota, and New Mexico—they comprised more than 10 percent of the student population.**

Notes on interpretation:

The term "minority" as used here refers to individuals who identify themselves as non-white or Hispanic — in ethnic groups that, collectively, comprise less than 50 percent of the public school student population in the United States as a whole, even though non-white and Hispanic students may constitute a majority in particular individual states. If current demographic trends continue, however, non-white and Hispanic students could constitute a majority of the U.S. public school population within several decades.

NCES's Common Core of Data, the source for the data used in this indicator, includes information from some, but not all Bureau of Indian Affairs (BIA) schools. While BIA schools enroll a relatively small proportion of elementary and secondary students nationwide — about 0.1 percent — over 85 percent of BIA enrollment is concentrated in the Northern Plains and Southwest states. Were the enrollments of the BIA schools added to this indicator, the American Indian and Alaskan Native proportion of nationwide enrollment would not increase by more than 0.1 percent. The increase could be substantially more in particular states of the Northern Plains and Southwest. For further information on BIA schools or American Indian and Alaskan Native education, see *Characteristics of American Indian and Alaska Native Education*, NCES report #97-451 or *Schools and Staffing Survey Student Records Questionnaire: School Year 1993–94, with Special Emphasis on American Indian and Alaska Native Students*, NCES report #97-449.

Figure 21: Minority enrollment in public elementary and secondary schools as a percentage of total enrollment: School year 1993-94



SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, *School* File, 1993-94.

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Table 21: Minority percentage of the student population in public elementary and secondary schools, by ethnic group and state: Fall 1993

State	Total minority[1]	Black[2]	Hispanic	Asian and Pacific Islander	American Indian and Alaskan Native
UNITED STATES	**33.8**	**16.5**	**12.6**	**3.6**	**1.1**
Alabama	37.6	35.9	0.4	0.6	0.8
Alaska	34.8	4.9	2.4	4.1	23.3
Arizona	40.3	4.2	27.6	1.6	6.9
Arkansas	25.9	24.0	0.9	0.7	0.3
California	57.7	8.7	37.0	11.2	0.8
Colorado	25.9	5.4	17.1	2.4	1.0
Connecticut	26.5	12.9	11.0	2.4	0.2
Delaware	33.8	28.5	3.4	1.7	0.2
District of Columbia	96.0	88.5	6.1	1.3	0.0
Florida	40.4	24.7	13.8	1.7	0.2
Georgia	40.1	37.0	1.5	1.4	0.2
Hawaii	76.3	2.6	5.0	68.4	0.3
Idaho	7.4	0.3	4.9	0.8	1.3
Illinois	35.2	21.0	11.1	2.9	0.1
Indiana	14.1	11.1	2.1	0.8	0.2
Iowa	6.6	3.1	1.6	1.5	0.4
Kansas	16.6	8.4	5.3	1.8	1.0
Kentucky	10.5	9.6	0.3	0.5	0.1
Louisiana	48.3	45.4	1.1	1.3	0.5
Maine	2.4	0.7	0.4	0.8	0.5
Maryland	41.1	34.2	2.9	3.7	0.3
Massachusetts	20.8	8.1	8.8	3.7	0.2
Michigan	21.9	17.1	2.4	1.4	1.0
Minnesota	11.2	4.2	1.7	3.5	1.9
Mississippi	52.1	50.9	0.3	0.5	0.4
Missouri	17.7	15.7	0.9	0.9	0.2
Montana	12.2	0.5	1.4	0.8	9.6
Nebraska	11.7	5.7	3.6	1.2	1.3
Nevada	29.5	9.2	14.3	4.0	2.0
New Hampshire	3.1	0.8	1.0	1.0	0.2
New Jersey	36.6	18.6	12.8	5.1	0.1
New Mexico	59.3	2.3	45.9	0.9	10.2
New York	41.7	20.1	16.5	4.7	0.4
North Carolina	34.0	30.1	1.3	1.1	1.5
North Dakota	9.7	0.7	0.8	0.7	7.5
Ohio	17.3	14.9	1.3	1.0	0.1
Oklahoma	28.4	10.3	3.3	1.2	13.7
Oregon	13.4	2.4	5.8	3.1	2.0
Pennsylvania	18.9	13.8	3.3	1.7	0.1
Rhode Island	18.9	6.8	8.6	3.1	0.4
South Carolina	42.4	41.0	0.5	0.7	0.2
South Dakota	15.1	0.7	0.6	0.7	13.0
Tennessee	24.4	23.0	0.5	0.9	0.1
Texas	52.3	14.3	35.5	2.2	0.2
Utah	8.5	0.6	4.5	2.0	1.4
Vermont	2.5	0.7	0.3	0.9	0.6
Virginia	32.1	25.8	2.8	3.3	0.2
Washington	20.1	4.4	6.9	6.2	2.6
West Virginia	4.7	4.0	0.2	0.4	0.1
Wisconsin	15.7	9.1	2.9	2.4	1.3
Wyoming	10.6	1.0	6.2	0.7	2.7

[1] Whites of Hispanic origin are counted as Hispanics.

[2] Excludes persons of Hispanic origin.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, School File, 1993-94.

Indicator 22: Federal programs for aid to the disadvantaged in public and private elementary and secondary schools

The economic conditions of students' lives can affect their performance in school. Poor students may not eat a nutritionally-adequate diet, and so may be less alert during class. They may have less free time in which to study because they must work to earn extra income for their family. They may live in a home environment not conducive to study — crowded and noisy, perhaps — with few books or other materials that promote learning. In an effort to compensate, to some degree, for the inherent academic disadvantage of poor children, the Federal government funds certain programs in both public and private elementary and secondary schools. The largest of these programs are the Chapter 1 - Compensatory Education programs of the U.S. Department of Education and the U.S. Department of Agriculture school nutrition programs. Chapter 1 provides funds to schools and school districts with poor students in the form of Basic State Grants, funding for the Even Start program, State Inprovement Grants, and money for the Program for Neglected and Delinquent Children and for Migrant Education. The U.S. Department of Agriculture school nutrition programs provide free and reduced-cost lunches and breakfasts to poor children. This indicator measures the amount of money these programs distribute in each state by comparison with total enrollments in public and private elementary and secondary schools. Due to the inclusion of all students in the enrollment figures, this measure is not the average amount spent on a student participating in these programs. However, a higher per student amount should indicate a higher level of need within a state.

- **In 1993, funding for school nutrition programs varied widely among the states, with 4 states receiving more than $200 per student and 2 states receiving less than $100 per student.**

- **One state—Mississippi—received over $200 per student in Chapter 1 funding. Eleven states received less than $100 per student.**

- **Most states received more funding per student for school nutrition programs than they received for Chapter 1.**

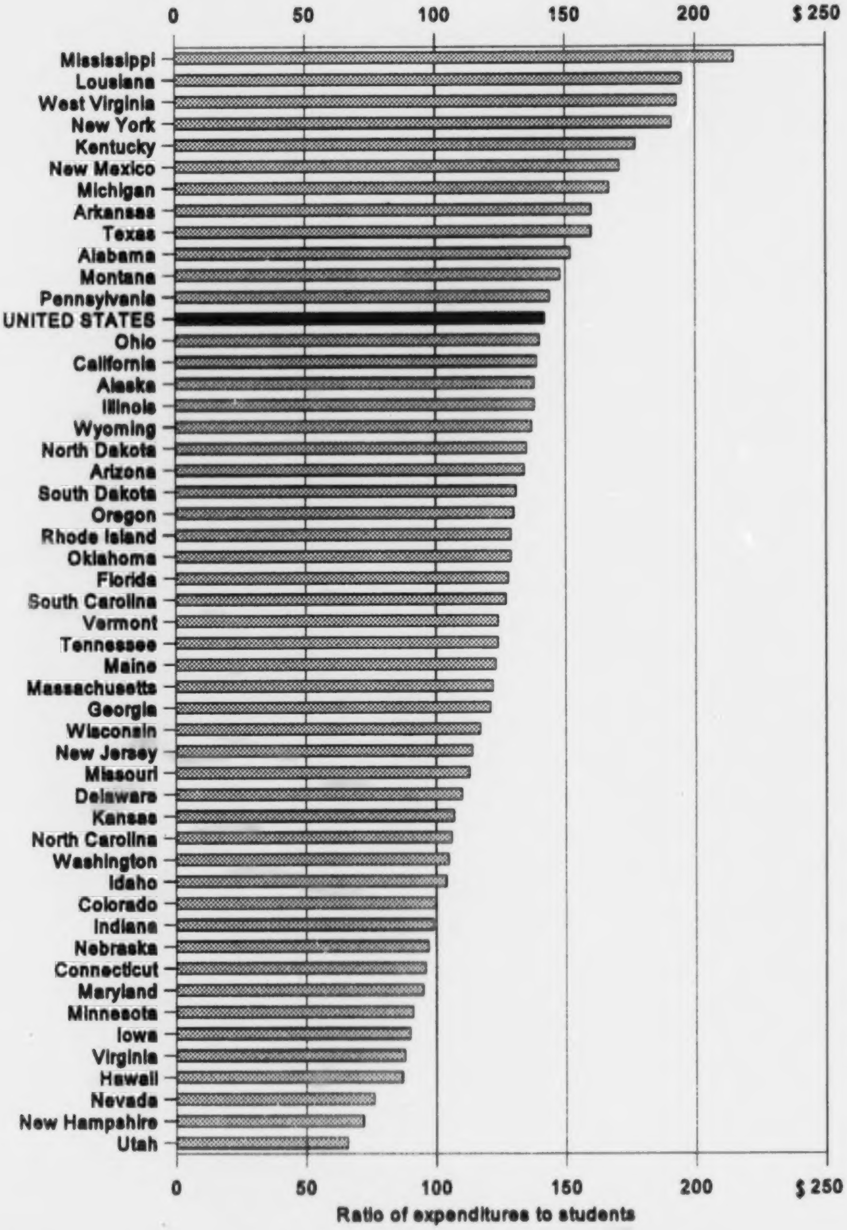
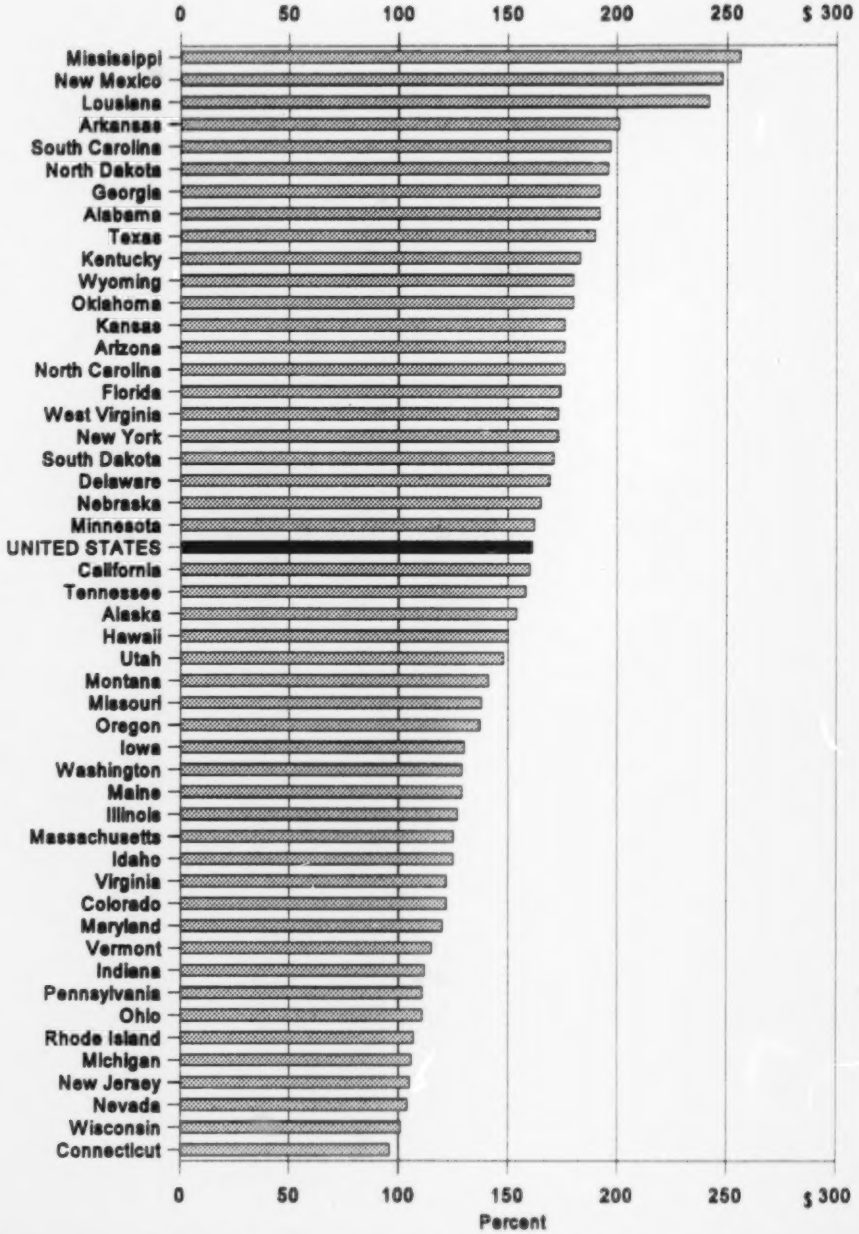


Figure 22a: **Ratio of of Chapter 1—Compensatory Education program to total expenditures to public and private elementary and secondary school enrollment, by state: 1993**

NOTE: The amounts shown above are not the average amount of money spent on each student participating in a program, but the ratio of program expenditures to total student enrollment in each state.

SOURCE: U.S. Department of Education Statistics, Common Core of Data, *Agency File*; *Digest of Education Statistics*, 1995, Tables 39, 62, an

Figure 22b: Ratio of U.S. Department of Agriculture school nutrition program expenditures to total public and private elementary and secondary school enrollment, by state: 1993



NOTE: The amounts shown above are not the average amount of money spent on each student participating in a program, but the ratio of program expenditures to total student enrollment in each state.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, *Agency file*; *Digest of Education Statistics*, 1995, Table 39.

Table 22: Ratio of expenditures of federal programs in aid to the disadvantaged to total public and private elementary and secondary school enrollment, by program and state: 1993

State	Chapter 1–Compensatory Education program	U.S. Department of Agriculture school nutrition programs
UNITED STATES	**$142**	**$161**
Alabama	152	192
Alaska	138	154
Arizona	134	176
Arkansas	160	201
California	139	160
Colorado	100	122
Connecticut	96	96
Delaware	110	169
District of Columbia	226	211
Florida	126	174
Georgia	121	192
Hawaii	87	150
Idaho	104	125
Illinois	138	127
Indiana	99	112
Iowa	90	130
Kansas	107	176
Kentucky	177	183
Louisiana	195	242
Maine	123	129
Maryland	95	120
Massachusetts	122	125
Michigan	167	106
Minnesota	91	162
Mississippi	215	256
Missouri	113	138
Montana	148	141
Nebraska	97	165
Nevada	76	104
New Hampshire	72	85
New Jersey	114	105
New Mexico	171	248
New York	191	173
North Carolina	106	176
North Dakota	135	196
Ohio	140	111
Oklahoma	129	180
Oregon	130	137
Pennsylvania	144	111
Rhode Island	129	107
South Carolina	127	197
South Dakota	131	171
Tennessee	124	158
Texas	160	190
Utah	66	145
Vermont	124	115
Virginia	88	122
Washington	105	129
West Virginia	193	173
Wisconsin	117	101
Wyoming	137	180

NOTE: The amounts listed above are not the average amount of money spent on each student participating in a program, but the ratio of program expenditures to total student enrollment in each state.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, *Agency File*; *Digest of Education Statistics, 1995*, Tables 39, 62, 357 and 363.

Indicator 23: Special education programs

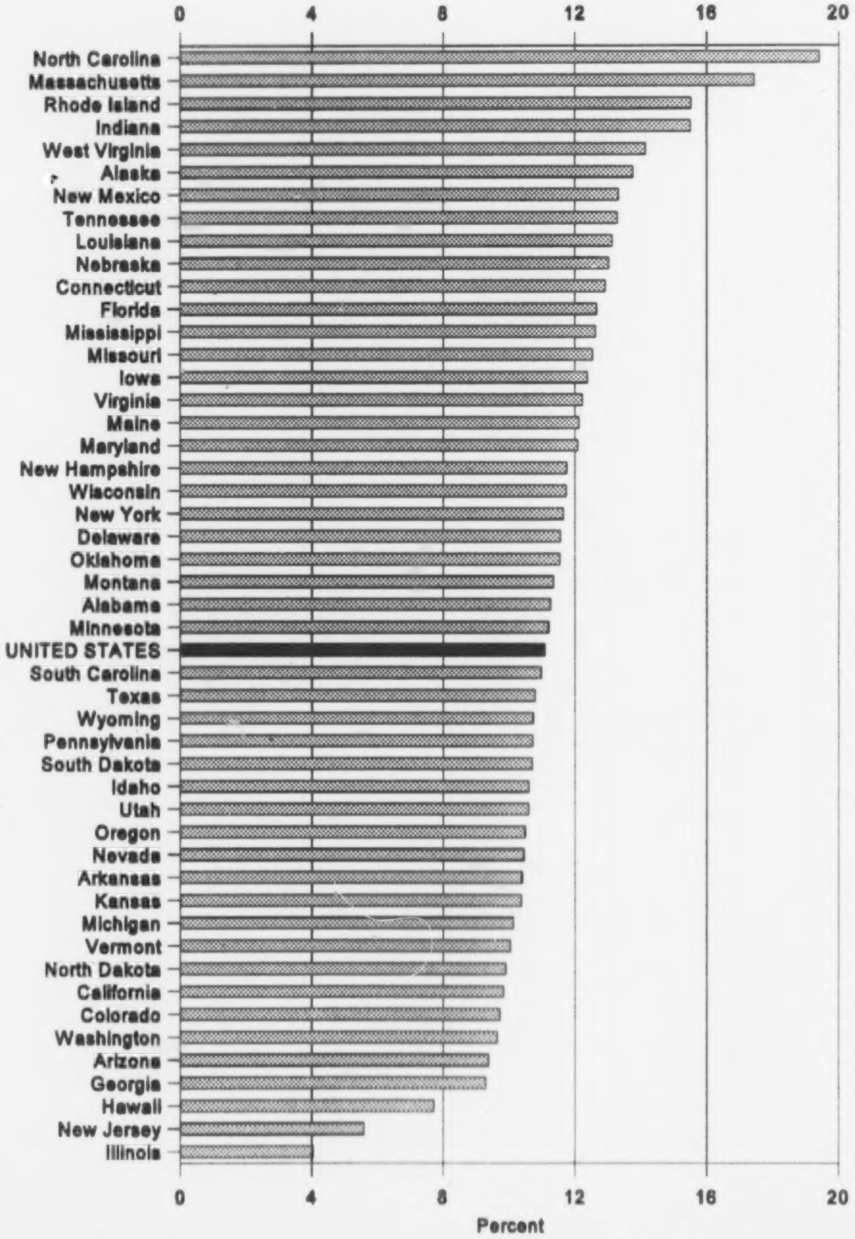
The federal Individuals with Disabilities Education Act (IDEA) mandates that all children have available to them a free and appropriate education designed to meet their unique needs. Providing an appropriate education to those with special needs has required an increasing proportion of education resources as the proportion of students served by these programs has grown. The individual conditions considered to constitute educational disabilities vary widely, from medical conditions such as cerebral palsy, to dyslexia, to pervasive and chronic maladaptive patterns of behavior. The growth in the number of students identified as learning disabled over the past two decades, in particular, has been substantial. The learning disabled now comprise a majority of special education students in many states, but judgements of what constitutes a learning disability can vary from state to state.

- **In 1993, the percentage of public school students following individualized education plans (IEPs) ranged from 9 to 16 percent in all but 5 of the states, with the percentage in a majority of states between 10 and 13 percent.**
- **Over a 16-year period, from 1976–77 to 1992–93, the number of persons aged 3 to 21 served under Part B of the Individuals with Disabilities Education Act increased by over 40 percent in a majority of states. The number more than doubled in six states.**
- **For 37 states, the number of persons aged 6 to 21 identified as learning disabled in 1993–94 was between 4 and 6 percent of the number of public and private school students in that school year.**
- **Over a 17-year period, from 1976–77 to 1993–94 the number of persons aged 6 to 21 identified as learning disabled increased by over 100 percent in 39 states. The number increased by over 200 percent in 20 states.**

Note on interpretation:

The percent change in a measure is a function of both the magnitude of the change and the magnitude of the measure in the base period. A percent change can appear large if the magnitude of the change is large or if the magnitude of the measure in the base period is small. A percent change can appear small if the magnitude of the change is small or if the magnitude of the measure in the base period is large. For this indicator in particular, some might argue that the full impact of the federal Individuals with Disabilities Education Act (IDEA), passed in 1975, took several years to manifest itself in some states, thus making the baseline year used here—1976–77—indicative of a situation before rather than after the implementation of the Act.

Figure 23a: **Percentage of public school students with individualized special education plans, by state: School year 1993–94**



SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, *Agency File; Digest of Education Statistics*, 1995, Table 39.

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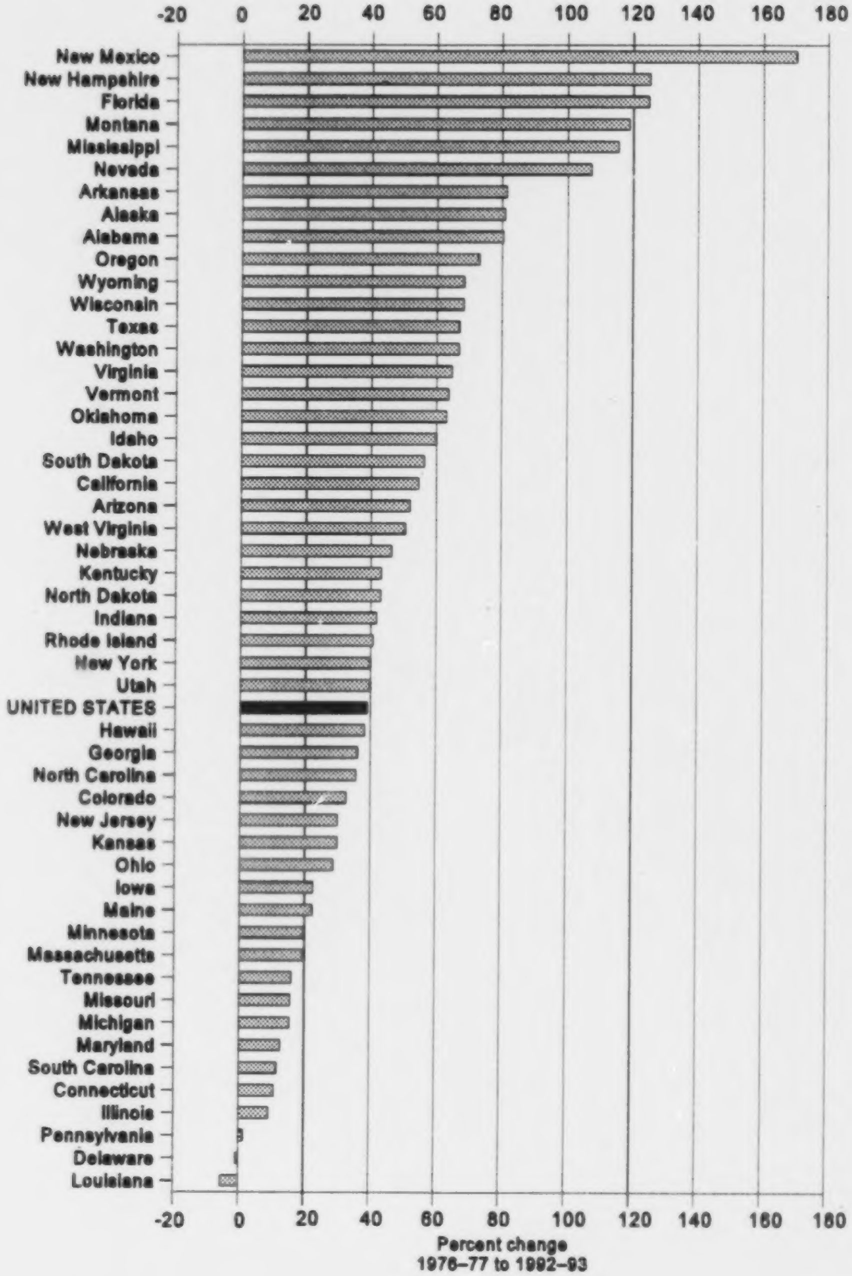
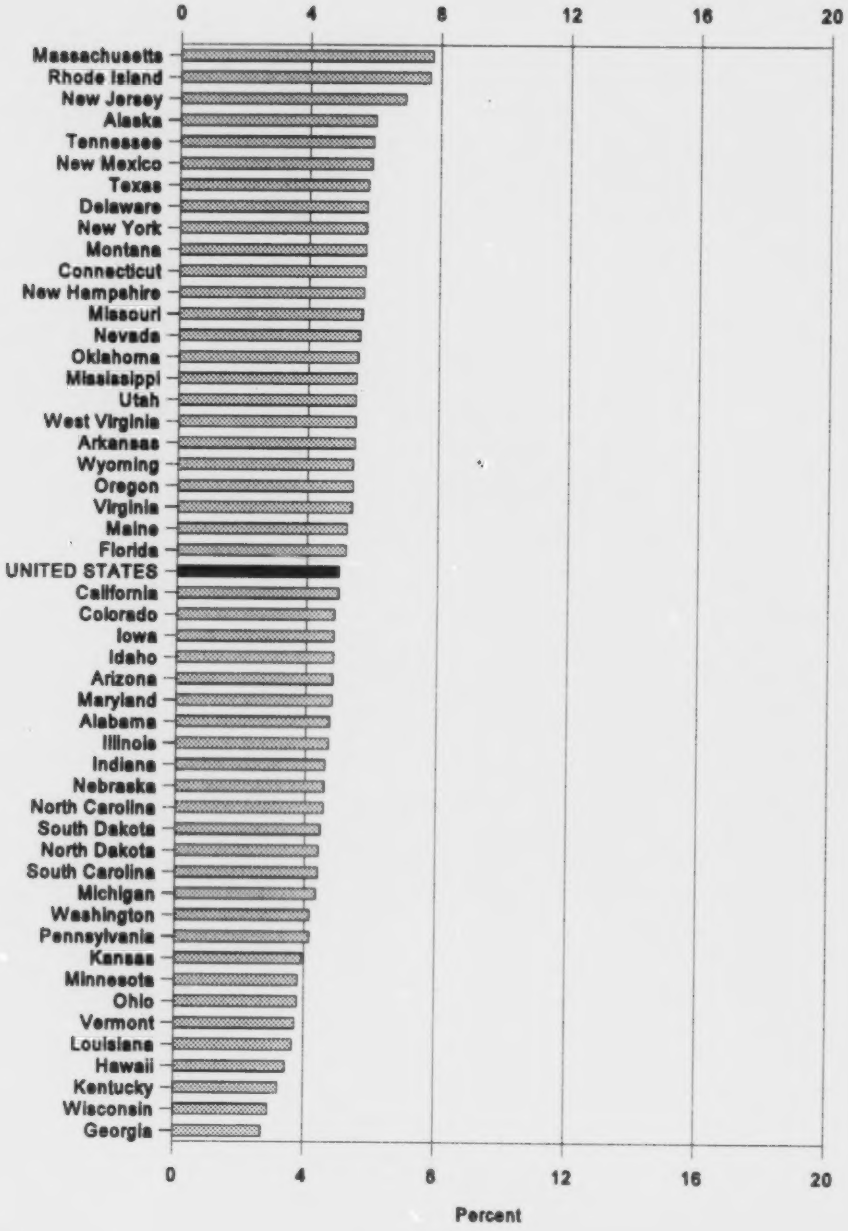
Figure 23b: Percent change in number of persons aged 3 to 21 served under Part B of the Individual with Disabilities Education Act, by state: 1976–77 to 1992–93



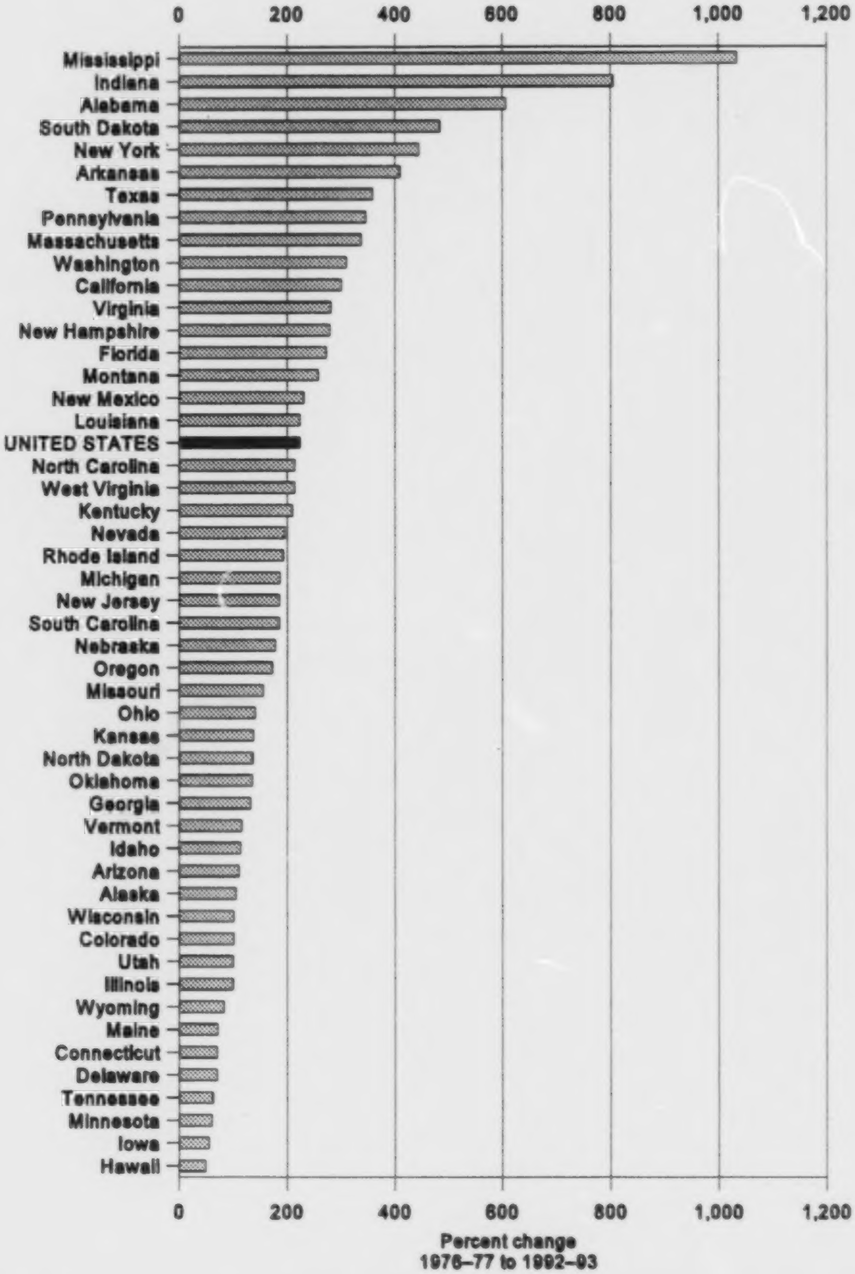
SOURCE: U.S. Department of Education, National Center for Education Office of Special Education Programs, "Seventeenth Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act," October 1994.

Figure 23c: Percentage of public and private school students identified as learning disabled, by state: School year 1993–94



SOURCE: U.S. Department of Education, Office of Special Education Programs, "Seventeenth Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act," October 1995; National Center for Education Statistics, *Digest of Education Statistics*, Tables 39 and 52.

Figure 23d: Percent change in number of children identified as learning disabled, by state: 1976–77 to 1992–93



SOURCE: U.S. Department of Education, Office of Special Education Programs, "Seventeenth Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act," October 1995.

Table 23: Relative size and percent change in size of special education programs, by program and state: various years

State	Percentage of public school students with individualized special education plans in 1993–94	Percent change in number of persons aged 3 to 21 served under Part B of the Individuals with Disabilities Education Act from 1976–77 to 1992–93	Number of persons aged 6 to 21 identified as learning disabled as a percentage of public and private school students in 1993–94	Percent change in number of persons aged 6 to 21 identified as learning disabled from 1976–77 to 1993–94
UNITED STATES	**11.1**	**39.4**	**5.0**	**223.2**
Alabama	11.3	80.4	4.7	606.6
Alaska	13.8	80.9	6.0	105.3
Arizona	9.4	51.9	4.8	111.1
Arkansas	10.4	81.4	5.4	409.2
California	9.8	54.6	5.0	300.0
Colorado	9.7	32.6	4.9	101.4
Connecticut	12.9	10.7	5.7	70.2
Delaware	11.6	-0.9	5.8	69.9
District of Columbia	8.9	-23.8	1.6	-3.8
Florida	12.7	124.8	5.2	272.8
Georgia	9.3	36.0	2.7	131.8
Hawaii	7.7	38.3	3.4	49.0
Idaho	10.6	59.8	4.8	113.8
Illinois	4.0	9.2	4.7	99.4
Indiana	15.5	41.7	4.6	804.9
Iowa	12.4	22.5	4.8	55.0
Kansas	10.4	29.9	3.9	136.9
Kentucky	—	43.2	3.2	209.9
Louisiana	13.1	-5.4	3.6	223.3
Maine	12.1	22.4	5.2	71.6
Maryland	12.1	12.8	4.8	47.2
Massachusetts	17.4	19.6	7.7	337.4
Michigan	10.1	15.5	4.4	186.0
Minnesota	11.2	19.7	3.8	60.7
Mississippi	12.6	115.5	5.5	1,034.4
Missouri	12.5	15.7	5.6	155.2
Montana	11.4	118.9	5.7	257.5
Nebraska	13.0	46.4	4.6	177.3
Nevada	10.5	107.3	5.6	196.0
New Hampshire	11.7	125.1	5.7	279.1
New Jersey	5.6	30.0	6.9	185.3
New Mexico	13.3	170.2	5.9	230.6
New York	11.6	39.9	5.8	444.9
North Carolina	19.4	35.5	4.6	214.0
North Dakota	9.9	43.0	4.4	135.8
Ohio	—	28.8	3.8	140.9
Oklahoma	11.5	63.1	5.5	135.6
Oregon	10.5	73.0	5.4	172.4
Pennsylvania	10.7	1.4	4.2	345.7
Rhode Island	15.5	40.6	7.7	192.3
South Carolina	11.0	11.6	4.4	184.6
South Dakota	10.7	56.4	4.5	483.7
Tennessee	13.3	16.1	6.0	62.5
Texas	10.8	67.0	5.8	358.3
Utah	10.6	39.8	5.5	99.5
Vermont	10.0	63.8	3.7	116.2
Virginia	12.2	64.9	5.4	280.7
Washington	9.6	66.9	4.2	309.9
West Virginia	14.1	50.5	5.5	213.6
Wisconsin	11.7	68.3	2.9	101.4
Wyoming	10.7	68.4	5.4	82.8

— Not available.

SOURCE: U.S. Department of Education, Office of Special Education Programs, "Seventeenth Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act," October 1995, and October 1994; National Center for Education Statistics, Common Core of Data, *Agency File*; and *Digest of Education Statistics, 1995*, Tables 39 and 62.

Indicator 24: Student use of technology

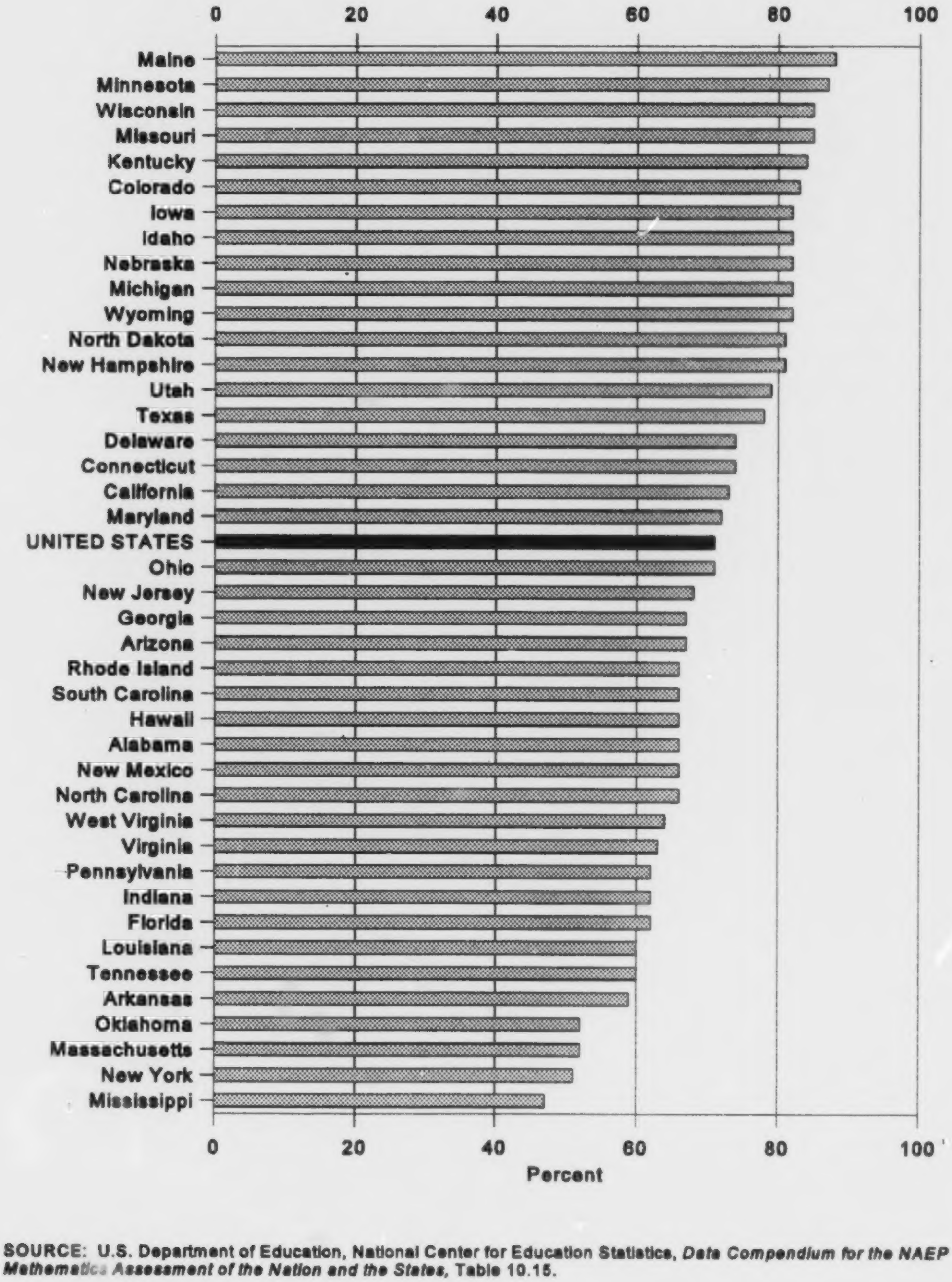
The forms of technology utilized in schools can affect both the types of skills taught in the classroom and the potential for academically sophisticated assignments and exercises. For example, in mathematics classes where students use calculators, they can spend more time solving complex and challenging problems and less on doing routine computations by hand. Likewise, students with access to computers can generate and edit work more efficiently and, thus, potentially free time to master a higher level of writing skill. Alternatively, computers may be used to facilitate various types of remedial activities for students having difficulty. Needless to say, student use of technology is affected by its availability. Therefore, varying levels of resources among states factor significantly into this measure.

- **In 1992, the proportion of public school eighth-grade students who reported that they used computers for school work or homework was generally smaller than the proportion who reported they used calculators in mathematics classes. In 6 of the 41 participating states did more than half of the students sampled report using computers for school work or homework. In all but one of the participating states, however, more than half of the students sampled reported using calculators in mathematics class.**

- **Across the states included in this study there was considerable variation in student-reported use of calculators in mathematics classes. The range extended from 47 percent in Mississippi to 88 percent in Maine.**

- **There were also noticeable state-to-state differences in the percentage of students who reported using computers for school work or homework. In Maine, 61 percent of students reported using computers; 26 percent in Tennessee.**

Figure 24a: **Percentage of public school eighth-graders who reported that they sometimes use calculators in mathematics class, by state: 1992**



SOURCE: U.S. Department of Education, National Center for Education Statistics, *Data Compendium for the NAEP 1992 Mathematics Assessment of the Nation and the States*, Table 10.15.

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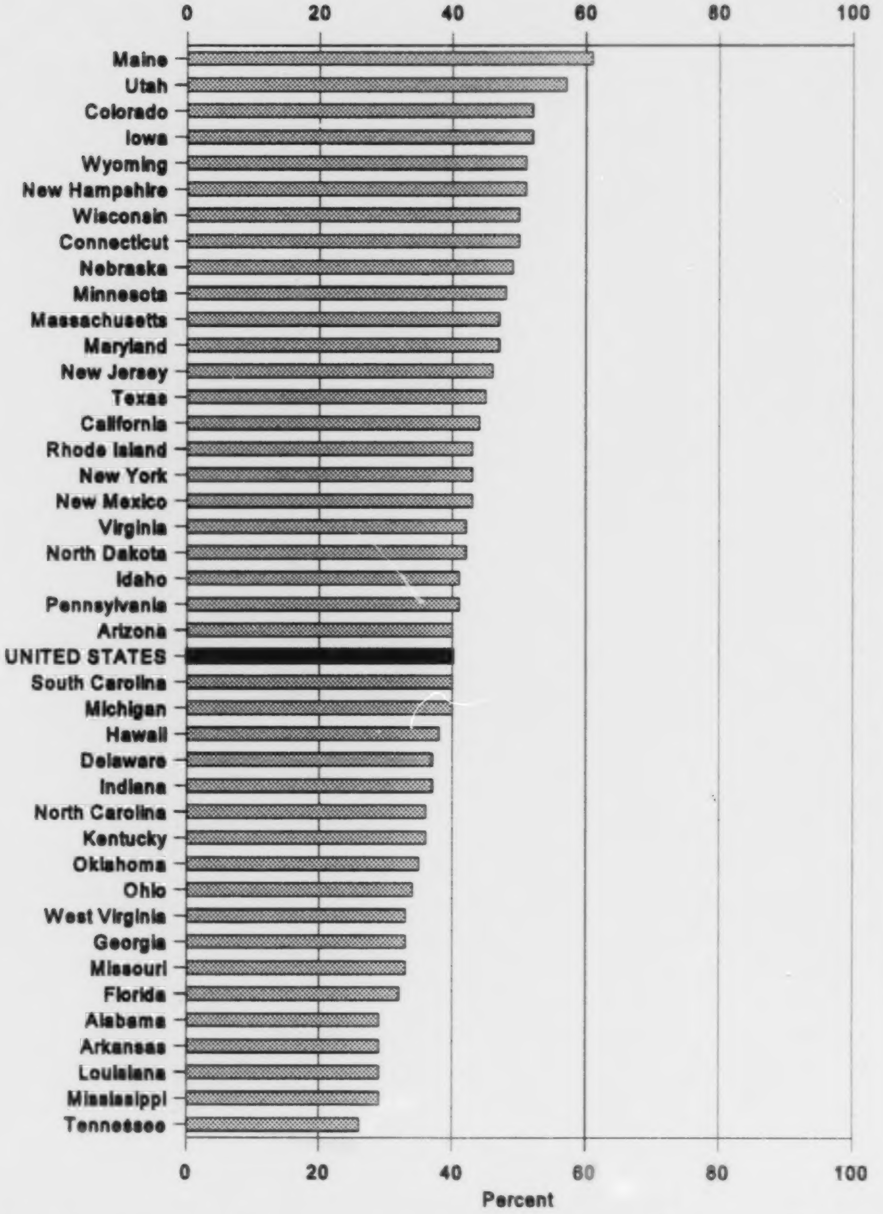
Figure 24b: Percentage of public school eighth-graders who reported that they sometimes use computers for school work or homework, by state: 1992



SOURCE: U.S. Department of Education, National Center for Education Statistics, *Data Compendium for the NAEP 1992 Mathematics Assessment of the Nation and the States*, Table 10.23.

Table 24: Percentage of eighth-grade public-school students who reported that they sometimes use calculators in mathematics class or computers for school work or homework, by state: 1992

State	Percent who use calculators	Percent who use computers
UNITED STATES	**71**	**40**
Alabama	66	29
Arizona	67	40
Arkansas	59	29
California	73	44
Colorado	83	52
Connecticut	74	50
Delaware	74	37
District of Columbia	75	46
Florida	62	32
Georgia	67	33
Hawaii	66	38
Idaho	82	41
Indiana	62	37
Iowa	82	52
Kentucky	84	36
Louisiana	60	29
Maine	88	61
Maryland	72	47
Massachusetts	52	47
Michigan	82	40
Minnesota	87	48
Mississippi	47	29
Missouri	85	33
Nebraska	82	49
New Hampshire	81	51
New Jersey	68	46
New Mexico	66	43
New York	51	43
North Carolina	66	36
North Dakota	81	42
Ohio	71	34
Oklahoma	52	35
Pennsylvania	62	41
Rhode Island	66	43
South Carolina	66	40
Tennessee	60	26
Texas	78	45
Utah	79	57
Virginia	63	42
West Virginia	64	33
Wisconsin	85	50
Wyoming	82	51

NOTE: The states of Alaska, Illinois, Kansas, Montana, Nevada, Oregon, South Dakota, Vermont, and Washington did not participate in the 1992 NAEP Trial State Assessment, the source for these data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Data Compendium for the NAEP 1992 Mathematics Assessment of the Nation and the States,* Tables 10.15 and 10.23.

Indicator 25: Instructional strategies in mathematics courses

The instructional practices employed by teachers and administrators can be influenced by cultural, social, demographic, and financial circumstances, as well as differing beliefs about "what works" best. Here, we present three measures—the percentage of school administrators (in public schools with an eighth grade) who report that students are assigned to mathematics classes based on ability, the percentage of students who report that they work in small groups in mathematics class at least once per week, and the percentage of students who report that they take a mathematics test or quiz at least weekly. Student data for the second and third measures are based on responses by public school eighth-graders.

- **In 1992, a majority of public school eighth graders were assigned to mathematics classes based on their perceived ability according to teachers in classrooms participating in the 1992 National Assessment of Educational Progress (NAEP). In only six states was the use of ability grouping reported for less than half of the sampled students.**

- **The percentage of public school eighth-grade students that teachers reported as assigned to mathematics classes based on ability ranged widely across the states, from 84 percent in Maryland and Delaware to 25 percent in North Dakota.**

- **Between 25 and 50 percent of students sampled in each of the states included here reported working in small groups in mathematics class at least once per week.**

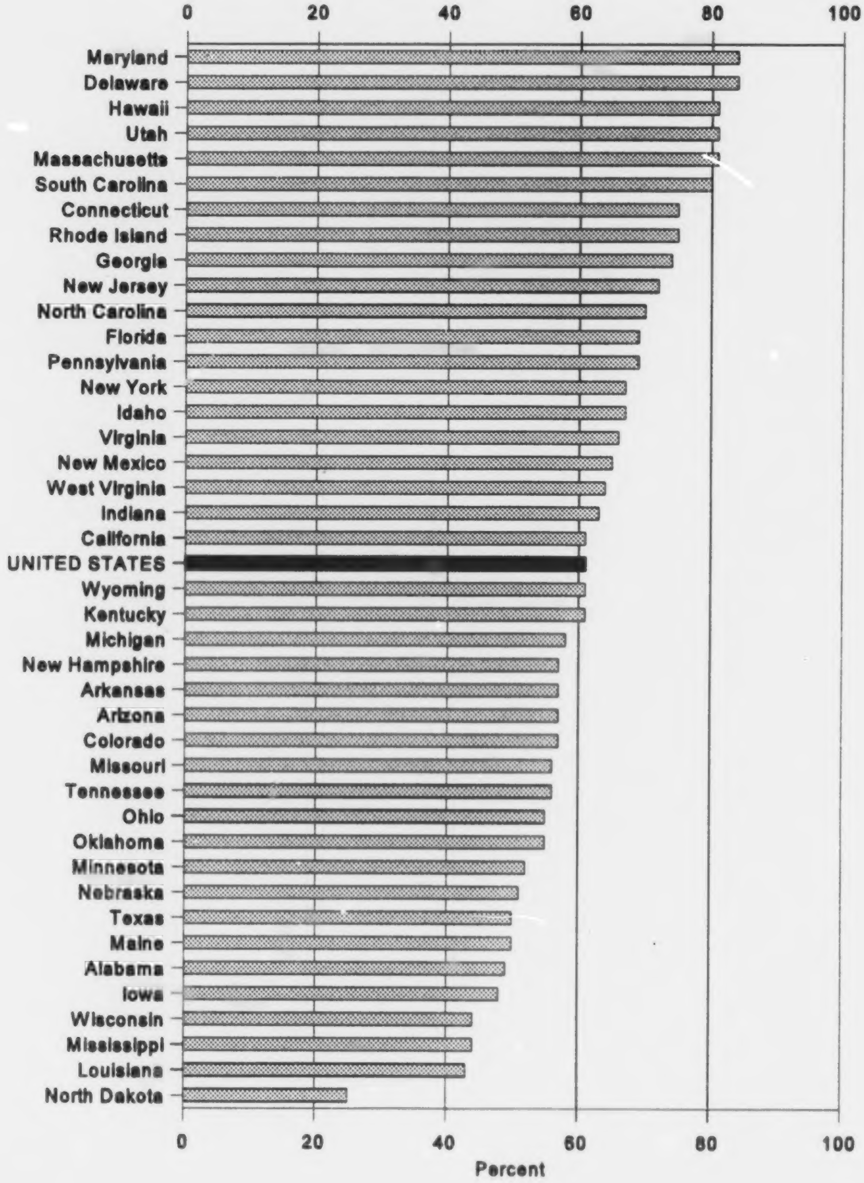
- **In most states included in this study, a majority of students reported taking mathematics tests at least once a week. In only five states did fewer than 50 percent of students report taking mathematics tests that frequently.**

- **In three states, Alabama, Mississippi, and Louisiana, over 80 percent of students reported taking mathematics tests at least weekly. Louisiana was the only state with a percentage higher than 90.**

Note on interpretation:

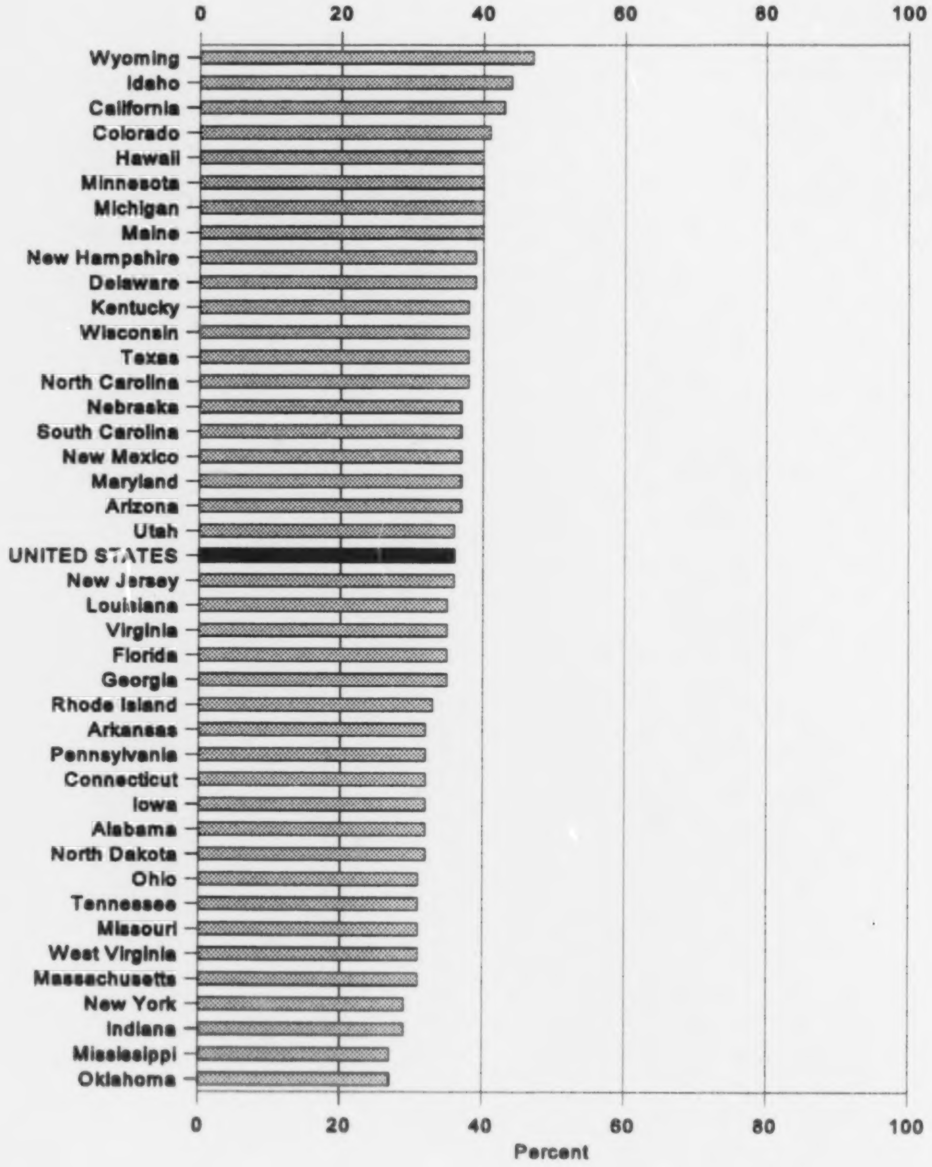
To a great extent, assigning students to classes based on ability is only possible in larger schools, and the greater prevalence of ability grouping in some states may be due, at least in part, to larger average school sizes. Smaller schools can find it difficult simply to mass enough students to form grade levels, much less ability groups within grade levels. Some states, moreover, offer parents and students more choice in the school they can attend, thus giving them the opportunity to "ability group" themselves by school.

Figure 25a: Percentage of public school eighth-graders assigned to mathematics classes based on ability (according to teachers), by state: 1992



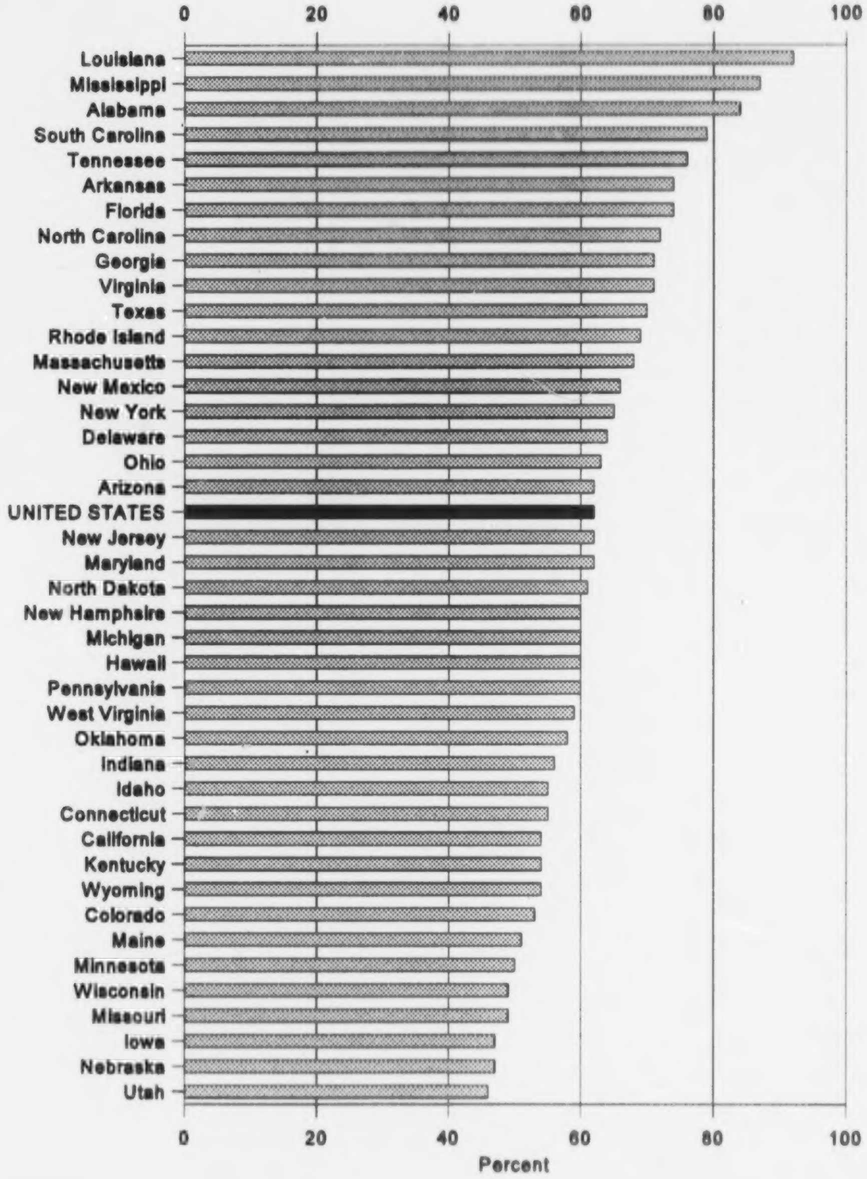
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Data Compendium for the NAEP 1992 Mathematics Assessment of the Nation and the States*, Table 9.4.

Figure 25b: Percentage of public-school eighth-graders who report working in small groups on mathematics problems, by state: 1992



SOURCE: U.S. Department of Education, National Center for Education Statistics, *Data Compendium for the NAEP 1992 Mathematics Assessment of the Nation and the States*, Table 9.16.

Figure 25c: Percentage of public school eighth-graders who reported taking a mathematics test at least once per week, by state: 1992



SOURCE: U.S. Department of Education, National Center for Education Statistics, *Data Compendium for the NAEP 1992 Mathematics Assessment of the Nation and the States*, Table 9.33.

Table 25: Percentage of 8th grade public school students and teachers reporting specific instructional practices, by state: 1992

State	Percent of 8th-graders assigned to math classes based on ability	Percent of 8th-graders who work in small groups in math class at least once per week	Percent of 8th-graders who take a math test at least once per week
UNITED STATES	**61**	**36**	**62**
Alabama	49	32	84
Arizona	57	37	62
Arkansas	57	32	74
California	61	43	54
Colorado	57	41	53
Connecticut	75	32	55
Delaware	84	39	64
Florida	69	35	74
Georgia	74	35	71
Hawaii	81	40	60
Idaho	67	44	55
Indiana	63	29	56
Iowa	48	32	47
Kentucky	61	38	54
Louisiana	43	35	92
Maine	50	40	51
Maryland	84	37	62
Massachusetts	81	31	68
Michigan	58	40	60
Minnesota	52	40	50
Mississippi	44	27	87
Missouri	56	31	49
Nebraska	51	37	47
New Hampshire	57	39	60
New Jersey	72	36	62
New Mexico	65	37	66
New York	67	29	65
North Carolina	70	38	72
North Dakota	25	32	61
Ohio	55	31	63
Oklahoma	55	27	58
Pennsylvania	69	32	60
Rhode Island	75	33	69
South Carolina	80	37	79
Tennessee	56	31	76
Texas	50	38	70
Utah	81	36	46
Virginia	66	35	71
West Virginia	64	31	59
Wisconsin	44	38	49
Wyoming	61	47	54

NOTE: Data for the states of Alaska, Illinois, Kansas, Montana, Nevada, Oregon, South Dakota, Vermont, and Washington are not available because they did not participate in the NAEP Trial State Assessment, the source for these data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Data Compendium for the NAEP 1992 Mathematics Assessment of the Nation and the States*, Tables 9.4, 9.16, and 9.33.

Indicator 26: Availability and use of public library resources

Because learning does not stop when a person leaves a school building, public libraries can be an important part of the educational system in the United States. The availability and number of public library resources, including books and serial volumes, audio tapes, films, video tapes, serial subscriptions, paid librarians, and other staff, are an indicator of a state's level of support for life-long learning, based on past as well as current expenditures. Circulation rates provide information on how often the public takes advantage of these resources. Comparing a state's per capita expenditures on public libraries with its per capita circulation transactions at public libraries reveals a generally positive relationship, indicating that spending for and use of library resources tend to be high in the same states.

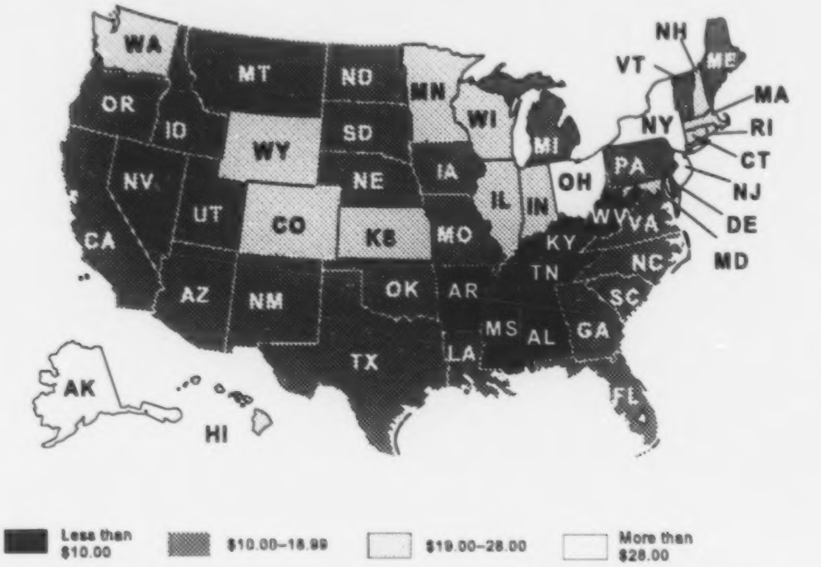
- **In 1992, public library expenditures per capita varied considerably across states. Six states had per capita expenditures above $25. Six other states had per capita expenditures below $10. New York, the state with the highest expenditures per capita, spent just over four times as much as Arkansas, the state with the lowest.**

- **The number of books and serial volumes per capita varied to a lesser degree than did the number of films, audio and video tapes per 1,000 persons across the states. The state with the highest number of books per capita had about three times the number of books per capita than the state with the lowest quantity, whereas the state with the highest number of films, audio and video tapes had seven times more than the state with the lowest.**

- **Generally, the level of expenditures on libraries was related to the number of library employees. Of 9 states that had more than 15 paid library employees per 25,000 persons, only 1—Kansas—had total library expenditures per capita below $20. Five of the 6 states with per capita expenditures above $25 were among the 9 states with the highest number of library employees per capita.**

- **Seven states had more than 9 circulation transactions per capita, with 2 states—Ohio and Washington—having 10 or more transactions per capita. Three states in the South—Mississippi, Alabama, and South Carolina—were the only states to have fewer than 4 transactions per capita.**

Figure 26a: Public library expenditures per capita: 1992


WA
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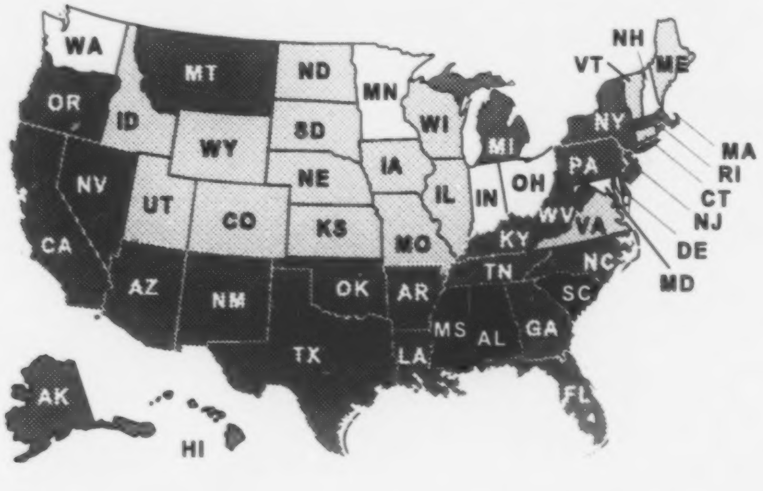
IN
OH
PA
NJ
DE
MD
CA
KS
MO
KY
WV
VA
NC
AZ
NM
OK
AR
TN
SC
MS
AL
GA
LA
TX
FL
AK
HI
Less than $10.00
$10.00–18.99
$19.00–28.00
More than $28.00

Figure 26b: Public library circulation transactions per capita: 1992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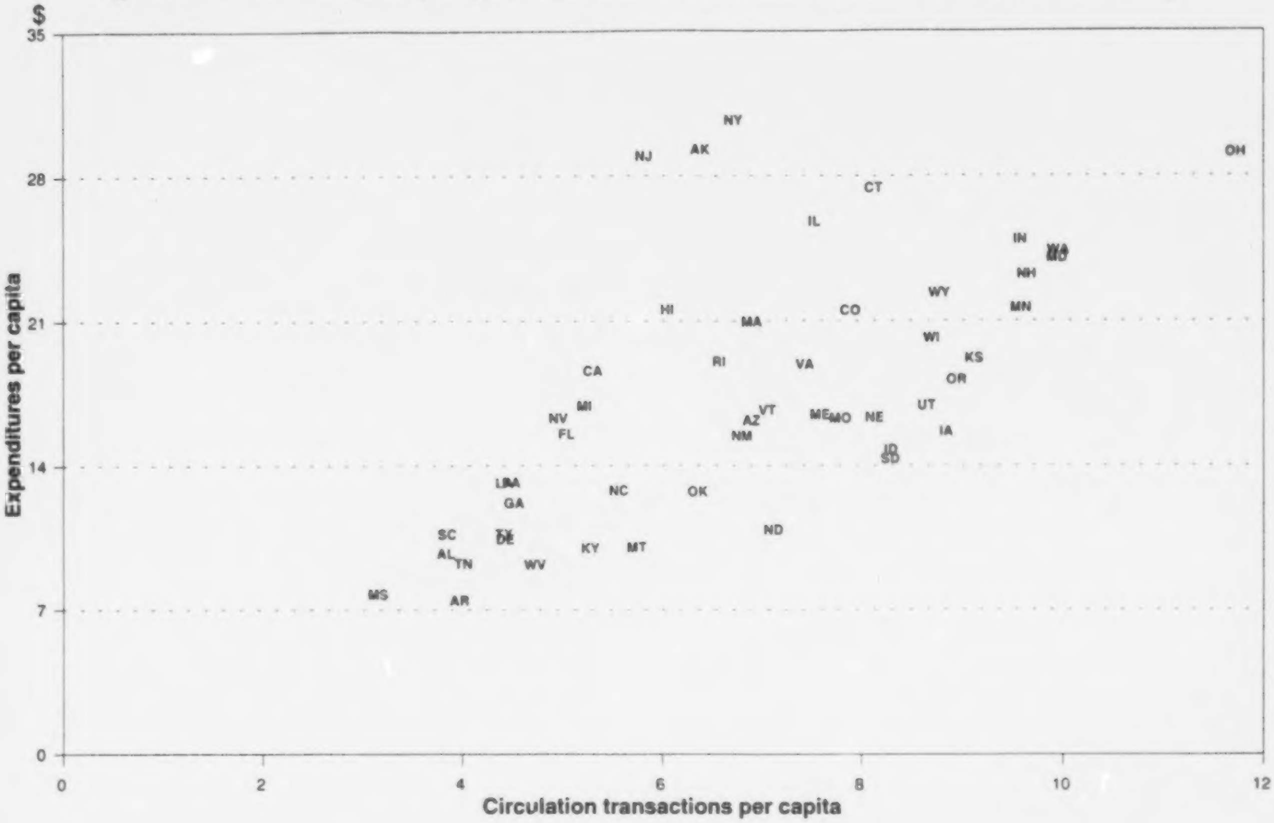
WV
VA
CA
KS
MO
KY
NC
TN
SC
AZ
NM
OK
AR
MS
AL
GA
LA
TX
FL
AK
HI
Less than 4.00
4.00–6.99
7.00–9.99
More than 10.00

SOURCE: U.S. Education Department, National Center for Education Statistics, *Public Libraries in the United States: 1992*; and unpublished tabulations (based on Federal-State Cooperative System for Public Library Data (FSCS), Public Library Survey, Fiscal Year 1992).

Figure 26c: Public Library expenditures and circulation transactions per capita: 1992



SOURCE: U.S. Department of Education, National Center for Education Statistics, *Public Libraries in the United States: 1992* and unpublished tabulations (based on Federal-State Cooperative System for Public Library Data (FSCS), Public Library Survey, Fiscal Year 1992).

Table 26: Public library expenditures and resources per capita, by state: 1992

State	Total expenditures (per capita)	Books and serial volumes (per capita)	Films, audio and video tapes (per 1,000 population)	Serial subscriptions (per 1,000 population)	Paid employees (per 25,000 population)	Circulation transactions (per capita)
UNITED STATES	**$18.73**	**2.7**	**125.6**	**7.1**	**11.4**	**6.4**
Alabama	9.70	1.8	44.4	3.5	7.9	3.8
Alaska	29.30	3.2	213.7	11.9	11.7	6.4
Arizona	16.17	1.9	59.6	5.4	8.9	6.9
Arkansas	7.45	2.0	34.6	3.6	6.3	4.0
California	18.58	1.9	81.1	5.5	8.7	5.3
Colorado	21.51	2.7	81.0	6.9	12.5	7.9
Connecticut	27.44	4.1	156.8	9.3	15.1	8.1
Delaware	10.42	1.8	60.0	6.3	6.7	4.4
District of Columbia	35.81	3.1	419.3	6.6	18.3	3.6
Florida	15.51	1.7	146.5	4.8	9.0	5.0
Georgia	12.17	2.0	101.4	4.0	8.7	4.5
Hawaii	21.54	2.7	95.8	8.7	13.5	6.1
Idaho	14.76	3.5	118.8	8.2	11.7	8.3
Illinois	25.79	3.3	172.7	11.3	16.3	7.5
Indiana	24.92	3.6	215.5	11.1	17.8	9.6
Iowa	15.65	3.8	152.7	12.9	11.7	8.8
Kansas	19.19	4.1	166.2	12.1	21.8	9.1
Kentucky	9.97	2.0	49.6	3.7	7.9	5.3
Louisiana	13.13	2.1	48.0	6.3	9.9	4.4
Maine	16.45	4.9	55.7	10.8	12.6	7.6
Maryland	24.03	3.0	170.3	7.3	13.9	9.9
Massachusetts	20.96	4.6	205.3	9.3	13.3	6.9
Michigan	16.87	2.5	116.3	7.8	9.8	5.2
Minnesota	21.60	2.7	147.0	7.8	12.2	9.6
Mississippi	7.74	1.9	59.9	4.3	7.0	3.2
Missouri	16.27	3.8	120.5	11.7	11.9	7.8
Montana	10.02	3.1	70.0	6.5	8.3	5.8
Nebraska	16.31	3.8	112.3	11.4	11.8	8.1
Nevada	16.27	1.7	55.6	5.1	8.8	5.0
New Hampshire	23.24	5.5	181.4	17.8	16.1	9.6
New Jersey	28.95	3.7	140.4	9.5	16.3	5.8
New Mexico	15.43	3.7	106.3	6.3	10.6	6.8
New York	30.69	3.6	219.8	10.2	16.0	6.7
North Carolina	12.77	1.9	58.2	5.0	8.5	5.6
North Dakota	10.87	3.6	132.0	8.2	8.7	7.1
Ohio	29.12	3.5	241.0	7.2	18.4	11.7
Oklahoma	12.72	2.2	44.2	6.5	8.5	6.4
Oregon	18.14	2.3	101.6	7.9	10.6	8.9
Pennsylvania	13.16	2.1	121.3	4.2	8.7	4.5
Rhode Island	19.03	3.9	98.4	8.0	14.0	6.6
South Carolina	10.66	1.7	41.1	5.0	7.4	3.9
South Dakota	14.32	3.9	118.3	10.1	11.0	8.3
Tennessee	9.22	1.6	63.9	4.1	7.0	4.0
Texas	10.66	2.0	69.8	4.6	7.8	4.4
Utah	16.89	2.7	134.3	5.9	9.5	8.6
Vermont	16.66	4.7	108.8	13.3	10.7	7.1
Virginia	18.87	2.4	108.9	7.6	11.4	7.4
Washington	24.41	2.6	180.0	7.4	13.0	10.0
West Virginia	9.18	2.4	91.0	4.5	7.2	4.7
Wisconsin	20.18	3.2	142.6	10.1	12.5	8.7
Wyoming	22.34	4.3	194.3	10.2	16.0	8.8

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Public Libraries in the United States: 1992*; and unpublished tabulations (based on Federal-State Cooperative System for Public Library Data (FSCS), Public Library Survey, Fiscal Year 1992).

HUMAN AND FINANCIAL RESOURCES OF EDUCATIONAL INSTITUTIONS

Indicator 27: Staffing patterns in public elementary and secondary schools

The most important resource used in education is personnel. This indicator presents the size of a state's elementary and secondary education staff in relation to the student population served, as well as the percentage of staff classified as teachers. Teachers' role as instructors and evaluators is the most essential in the education enterprise. Teachers are supported, to varying degrees across countries and states, however, by non-teaching personnel, such as school administrators and those employed in ancillary services. Services provided by such personnel include school-based health services, school cafeterias, pupil transportation, vocational and psychological counseling, building construction and maintenance, and administrative management of the schools. Smaller student-to-staff and student-to-teacher ratios are perceived as beneficial because they may allow students to receive more personalized attention from teachers and other service providers and may reduce the burden of managing large numbers of students and their work. However, maintaining these smaller ratios can be expensive. Furthermore, larger student-to-teacher ratios do not necessarily hinder instruction. Depending on teaching style, student behavior, and other factors, such as the opportunity for students to meet with teachers outside of class, large classes may function as well as small ones. Similarly, a larger student-to-staff ratio may indicate a more efficiently administered education system.

- **In fall 1993, only New Jersey and Vermont had student-to-teacher ratios of less than 14, while three states (California, Utah, and Washington) had ratios of greater than 20.**

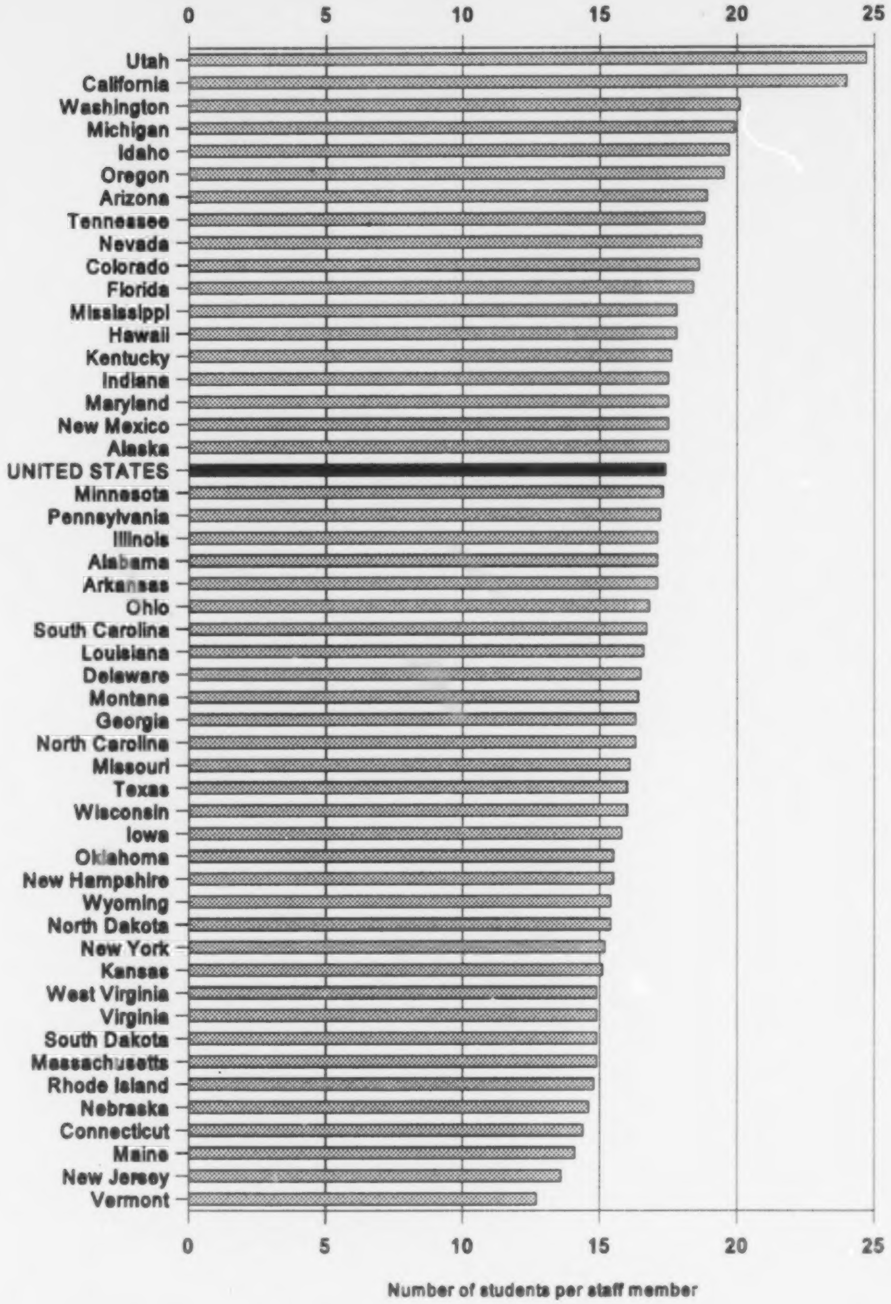
- **Similarly, only Vermont had a student-to-staff ratio below 7, and Utah and California had the only ratios greater than 12.**

- **Teachers comprised a majority of education staff in all but seven states. Most states, however, displayed roughly equal numbers of teaching and non-teaching staff; in the country as a whole, 52 percent of school staff were teachers. In only three states (Idaho, Minnesota, and Rhode Island) were teachers 60 percent or more of all staff.**

Note on interpretation:

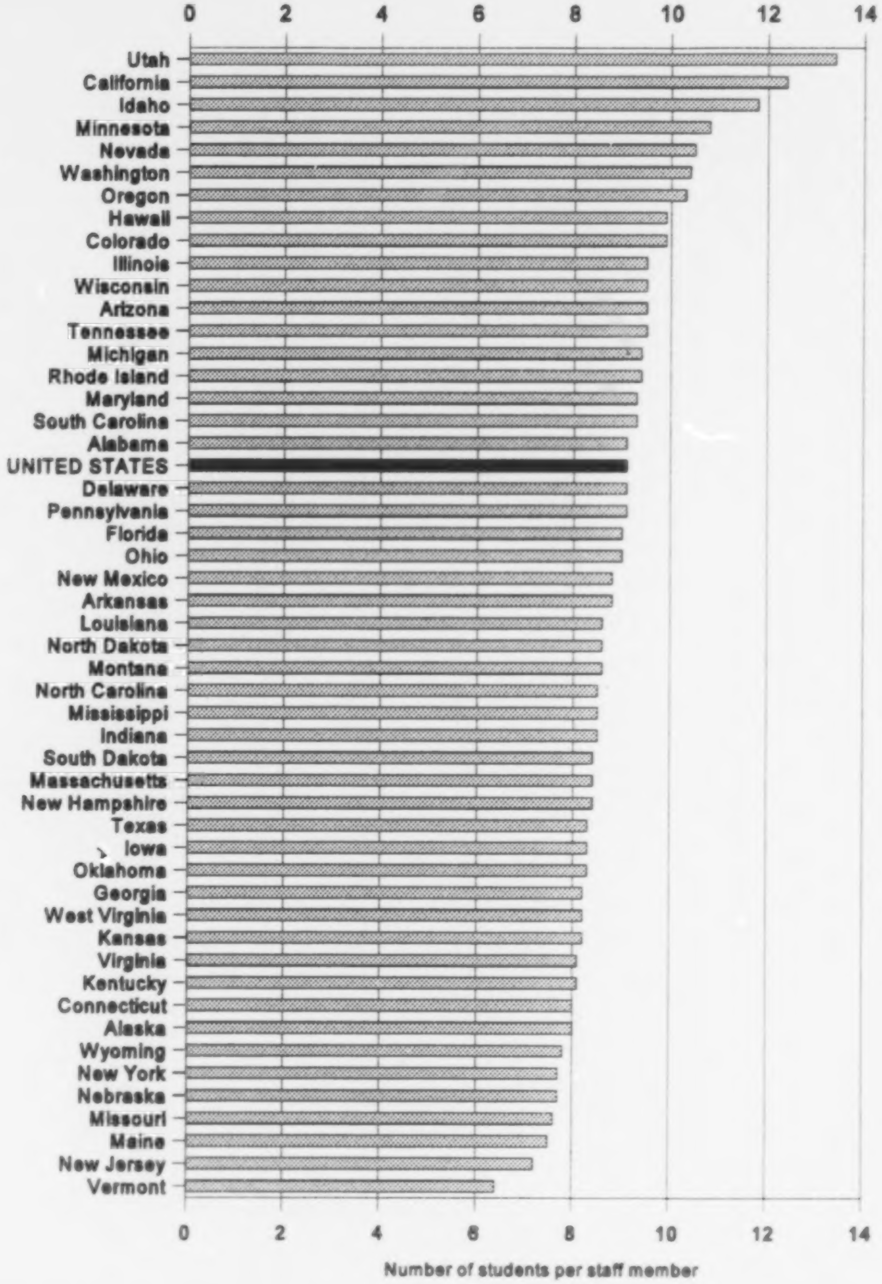
Average student-to-teacher ration usually differs from average class size. The student-to-teacher ratio counts all employed teachers and enrolled students without consideration for how they spend their time in school. Class size counts the number of students a teacher faces in a classroom without consideration for the time teachers spend in planning, administration, meetings, or counseling, or the time students spend at lunch, in computer labs, in counseling, or other non-classroom activities. Average class sizes tend to exceed average student-to-teacher ratios in similar grade levels and subject areas, implying that the average amount of time at school but not in class is larger for teachers than for students. Another NCES publication, *SASS by State*, contains several indicators of class size by state, in chapter 4.

Figure 27a: **Student-to-teacher ratio in public elementary and secondary schools, by state: Fall, 1993**



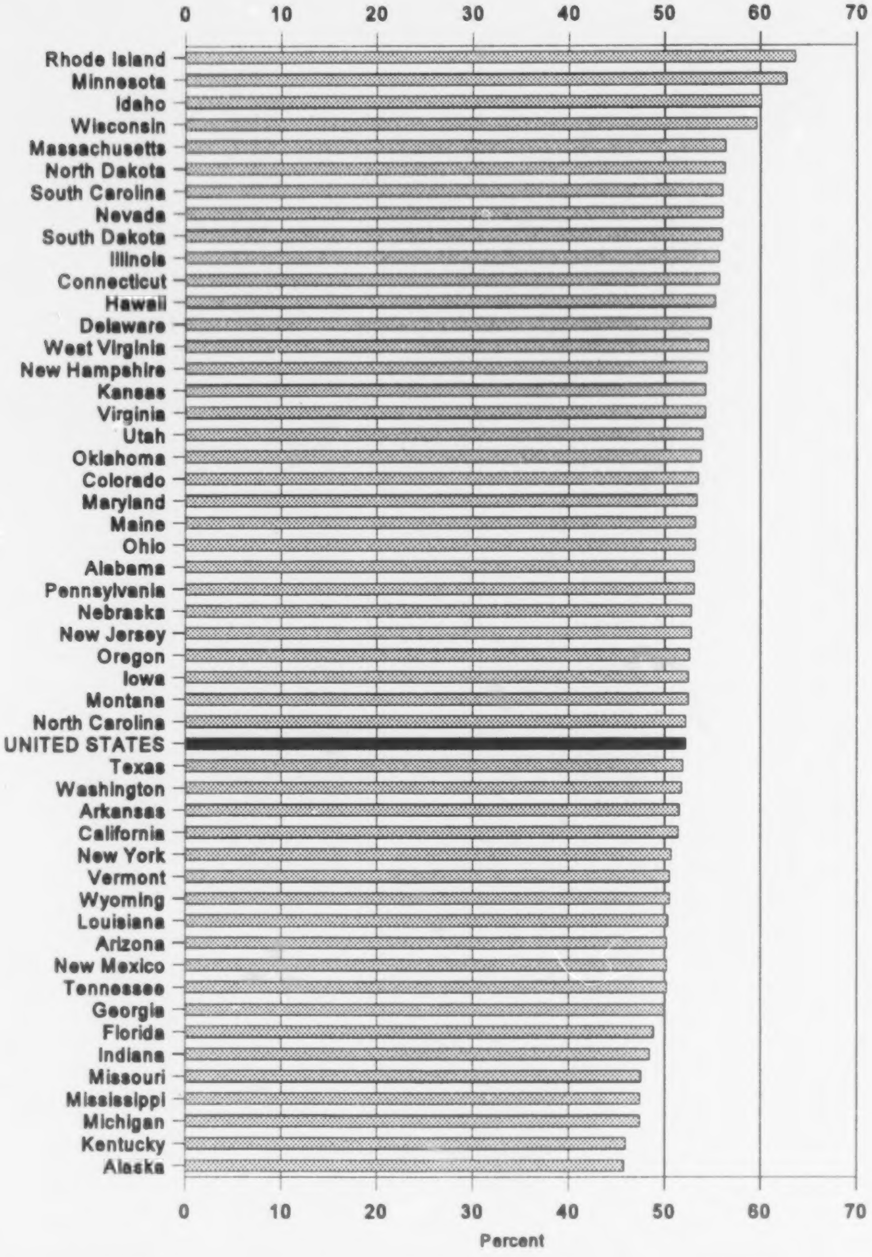
SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1995,* Table 65.

Figure 27b: Student-to-staff ratio in public elementary and secondary schools, by state: Fall, 1993



SOURCE: U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics, 1995*, Table 85.

Figure 27c: Teachers as a percentage of all staff in public elementary and secondary schools, by state: Fall, 1993



SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data *School* File (based on: *Digest of Education Statistics, 1995,* Table 84).

Table 27: Student-to-teacher ratio, student-to-staff ratio, and teachers as a percentage of all staff, by state: Fall 1993

State	Student-to-teacher ratio	Student-to-staff ratio	Teachers as a percent of all staff
UNITED STATES	**17.4**	**9.1**	**52.2**
Alabama	17.1	9.1	53.1
Alaska	17.5	8.0	45.7
Arizona	18.9	9.5	50.2
Arkansas	17.1	8.8	51.5
California	24.0	12.4	51.4
Colorado	18.6	9.9	53.5
Connecticut	14.4	8.0	55.7
Delaware	16.5	9.1	54.8
District of Columbia	13.3	7.6	57.2
Florida	18.4	9.0	48.8
Georgia	16.3	8.2	50.0
Hawaii	17.8	9.9	55.3
Idaho	19.7	11.8	60.1
Illinois	17.1	9.5	55.7
Indiana	17.5	8.5	48.4
Iowa	15.8	8.3	52.5
Kansas	15.1	8.2	54.3
Kentucky	17.6	8.1	45.9
Louisiana	16.6	8.6	50.3
Maine	14.1	7.5	53.2
Maryland	17.5	9.3	53.4
Massachusetts	14.9	8.4	56.4
Michigan	19.9	9.4	47.4
Minnesota	17.3	10.8	62.7
Mississippi	17.8	8.5	47.4
Missouri	16.1	7.6	47.5
Montana	16.4	8.6	52.5
Nebraska	14.6	7.7	52.8
Nevada	18.7	10.5	56.1
New Hampshire	15.5	8.4	54.4
New Jersey	13.6	7.2	52.8
New Mexico	17.5	8.8	50.2
New York	15.2	7.7	50.7
North Carolina	16.3	8.5	52.2
North Dakota	15.4	8.6	56.3
Ohio	16.8	9.0	53.2
Oklahoma	15.5	8.3	53.8
Oregon	19.5	10.3	52.6
Pennsylvania	17.2	9.1	53.1
Rhode Island	14.8	9.4	63.6
South Carolina	16.7	9.3	56.1
South Dakota	14.9	8.4	56.0
Tennessee	18.8	9.5	50.2
Texas	16.0	8.3	51.9
Utah	24.7	13.4	54.0
Vermont	12.7	6.4	50.5
Virginia	14.9	8.1	54.3
Washington	20.1	10.4	51.8
West Virginia	14.9	8.2	54.6
Wisconsin	16.0	9.5	59.6
Wyoming	15.4	7.8	50.5

NOTE: U.S. totals and some state numbers for student-to-staff ratios and teachers as a percentage of staff include imputations for under reporting and nonreporting.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, *School* File (based on: *Digest of Education Statistics, 1995*, Tables 65, 84, and 85).

Indicator 28: Faculty and staff employed at public 2-year higher education institutions

Two-year higher education institutions, such as community colleges, tend to be more accessible to potential students than 4-year institutions, in part through a lower cost of attendance. Some services and personnel typically found at 4-year institutions are not provided at 2-year institutions, leading to higher student-to-staff ratios. Likewise, student-to-faculty ratios can also be higher, as 2-year institutions are less involved in research, with the role of faculty focused on the teaching and evaluation of students. In this respect, 2-year institutions' student-to-faculty ratios may be more indicative of class size than those of 4-year institutions. This indicator presents the number of students enrolled in public 2-year institutions of higher education per each member of staff or faculty.

- **In 1993, student-to-staff ratios in public 2-year higher education institutions showed considerable variation across states. In Virginia, with the highest ratio, there were almost 3 times as many students for each staff member as in Vermont, the state with the lowest ratio.**

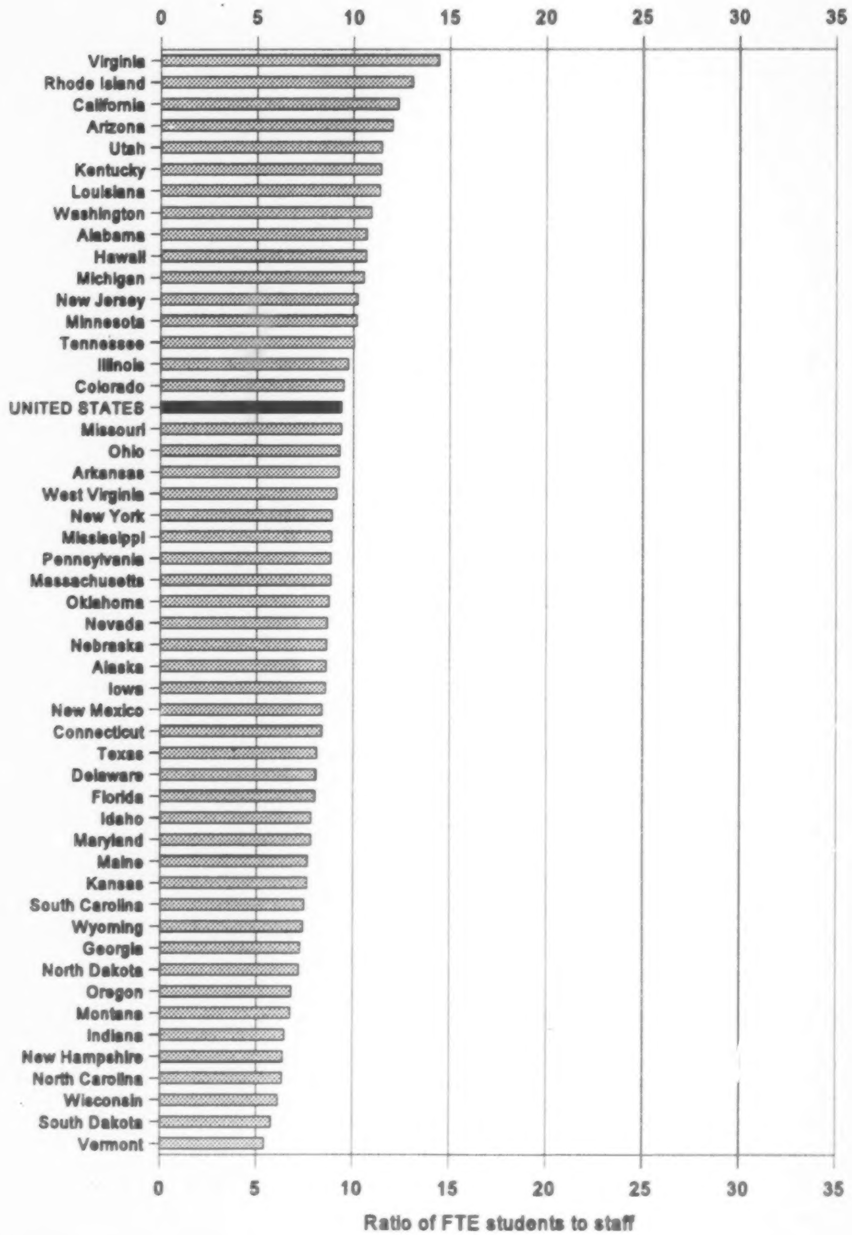
- **Student-to-faculty ratios in public 2-year higher education institutions were much larger than student-to-staff ratios for each state. Whereas no state had more than 15 students per staff member, all but nine states had more than 15 students per faculty member.**

Notes on interpretation:

The student-to-faculty ratio is not necessarily a measure of class size. Because this indicator measures total student population per total faculty members, it does not reveal whether institutions choose to have different-sized classes for different subjects or different levels of education. The same number of faculty in different institutions may teach with different frequency or vary in the amount of their non-instructional responsibilities.

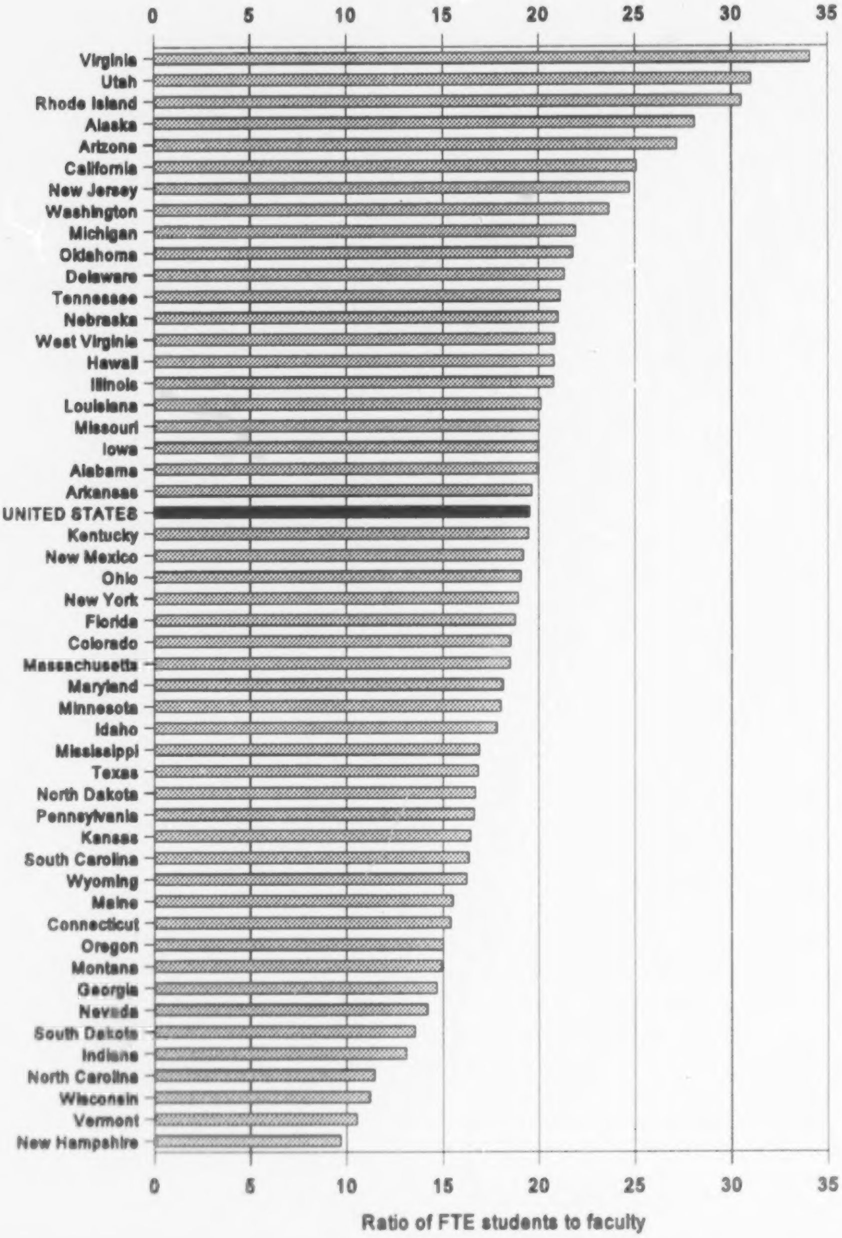
Institution size can be a factor in determining student-to-staff and student-to-faculty ratios. Generally, larger institutions can achieve some economies of scale through larger classes that smaller institutions cannot. Indicator 17 shows the average institutional size by state, level of education, and control.

Figure 28a: Ratio of students to staff in public 2-year higher education institutions, by state: Fall 1993



SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, *Staff* Survey, 1993; *Fall Enrollment* Survey, 1993–94.

Figure 28b: Ratio of students to faculty in public 2-year higher education institutions, by state: Fall 1993



SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, *Staff* Survey, 1993; *Fall Enrollment* Survey, 1993–94.

Table 28: Ratios of students to staff and students to faculty in 2-year higher education institutions, by control of institution and state: Fall 1993

State	FTE-student-to-staff ratio		FTE-student-to-faculty ratio	
	Public	Private	Public	Private
UNITED STATES	**9.4**	**8.3**	**19.5**	**20.3**
Alabama	10.7	6.5	19.9	16.7
Alaska	8.6	7.8	28.1	20.8
Arizona	12.0	8.4	27.2	22.3
Arkansas	9.3	13.6	19.6	26.4
California	12.3	6.7	25.1	18.1
Colorado	9.5	9.5	18.5	22.0
Connecticut	8.4	4.9	15.4	13.1
Delaware	8.1	—	21.3	—
District of Columbia	—	—	—	—
Florida	8.0	6.3	18.8	13.3
Georgia	7.3	8.5	14.7	19.0
Hawaii	10.6	—	20.8	—
Idaho	7.8	9.7	17.8	22.9
Illinois	9.7	8.3	20.8	18.4
Indiana	6.5	12.3	13.1	29.0
Iowa	8.6	7.2	20.0	21.9
Kansas	7.6	4.4	16.4	11.2
Kentucky	11.4	11.2	19.5	28.7
Louisiana	11.4	9.1	20.1	19.3
Maine	7.7	13.3	15.5	26.2
Maryland	7.8	5.6	18.1	16.7
Massachusetts	8.8	7.7	18.5	19.4
Michigan	10.5	6.2	21.9	16.7
Minnesota	10.2	9.3	18.0	18.9
Mississippi	8.9	6.6	16.9	18.4
Missouri	9.4	7.1	20.0	16.0
Montana	6.7	6.2	14.9	17.3
Nebraska	8.6	3.2	21.0	9.8
Nevada	8.6	1.9	14.2	5.0
New Hampshire	6.4	11.7	9.7	30.5
New Jersey	10.2	9.3	24.7	24.6
New Mexico	8.4	13.0	19.2	27.7
New York	8.9	10.2	18.9	24.4
North Carolina	6.3	5.0	11.5	12.0
North Dakota	7.2	1.5	16.7	7.3
Ohio	9.3	11.7	19.1	24.0
Oklahoma	8.8	3.1	21.8	11.6
Oregon	6.8	7.9	15.0	22.8
Pennsylvania	8.8	9.1	16.6	25.8
Rhode Island	13.0	10.3	30.5	20.2
South Carolina	7.5	8.1	16.3	21.8
South Dakota	5.8	5.2	13.5	8.9
Tennessee	10.0	8.2	21.1	17.2
Texas	8.1	9.1	16.8	20.8
Utah	11.5	8.3	31.0	15.7
Vermont	5.4	1.1	10.5	1.6
Virginia	14.4	5.6	34.1	11.5
Washington	10.9	9.2	23.7	20.9
West Virginia	9.1	16.8	20.8	54.4
Wisconsin	6.1	12.8	11.2	26.7
Wyoming	7.4	4.7	16.2	16.3

— Not applicable or available.

SOURCE: U. S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, *Staff* and *Fall Enrollment* Surveys, Fall 1993.

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Indicator 29: Faculty and staff employed in 4-year higher education institutions

Four-year higher education institutions commonly provide numerous ancillary services beyond educational instruction that 2-year institutions do not. Examples might include dormitories, health clinics, and intercollegiate athletics. These services require additional staff, thus leading to lower student-to-staff ratios than would be found in two-year institutions. Student-to-faculty ratios can also be lower than at 2-year institutions. This is, in part, a reflection of the expanded role of faculty as not just teachers and evaluators, but as researchers and contributors to the intellectual life of their academic discipline. Lower student-to-staff and student-to-faculty ratios may imply a broader range of services and more personalized attention for students, but maintaining additional personnel and services incurs a greater expense, as well.

- **In 1993, ratios of students to staff for 4-year public higher education institutions were considerably lower than for their 2-year counterparts. Only two states—Louisiana and South Dakota—had student-to-staff ratios for public institutions greater than 6, whereas South Dakota and Vermont were the only states to have fewer than 6 students per staff member for 2-year public higher education institutions.**

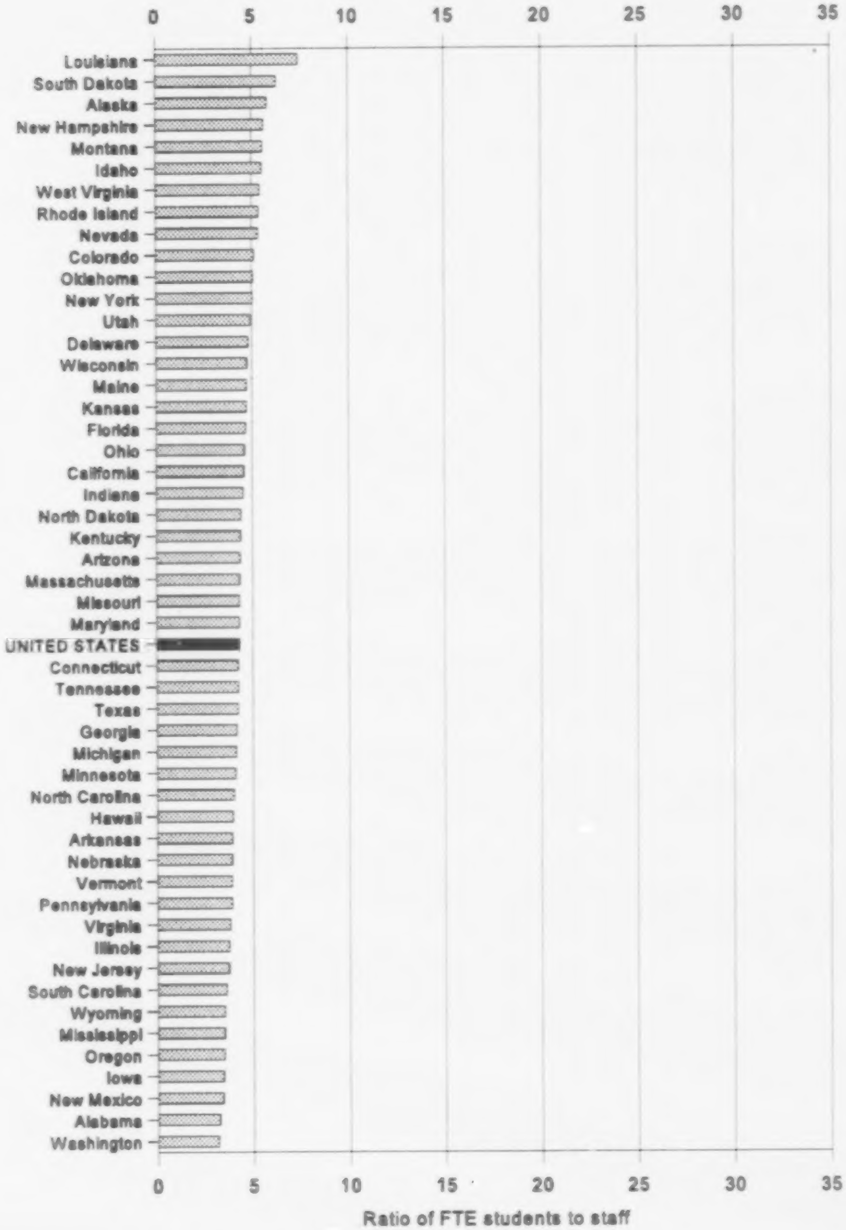
- **With the exceptions of Lousiana (22) and Delaware (21), all of the states had student to faculty ratios for 4-year public institutions within the range from 10 to 20 students per faculty member. For private institutions, 4 states had ratios above 20—Arizona, Nevada, Delaware, and Utah—and 3 states had ratios below 10—Tennessee, Connecticut, and Maryland.**

Notes on interpretation:

The student-to-faculty ratio is not necessarily a measure of class size. Because it is the ratio of total student population to total faculty members, it does not reveal whether institutions choose to have different-sized classes for different subjects or different levels of education. The same number of faculty in different institutions may teach with different frequency or vary in the amount of their non-instructional responsibilities.

Institution size can be a factor in determining student-to-staff and student-to-faculty ratios. Generally, larger institutions can achieve some economies of scale through larger classes that smaller institutions cannot. Indicator 17 shows the average institutional size by state, level of education, and control.

Figure 29a: Ratio of students to staff in public 2-year higher education institutions, by state: Fall 1993



SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, *Staff* Survey, 1993; *Fall Enrollment* Survey, 1993–94.

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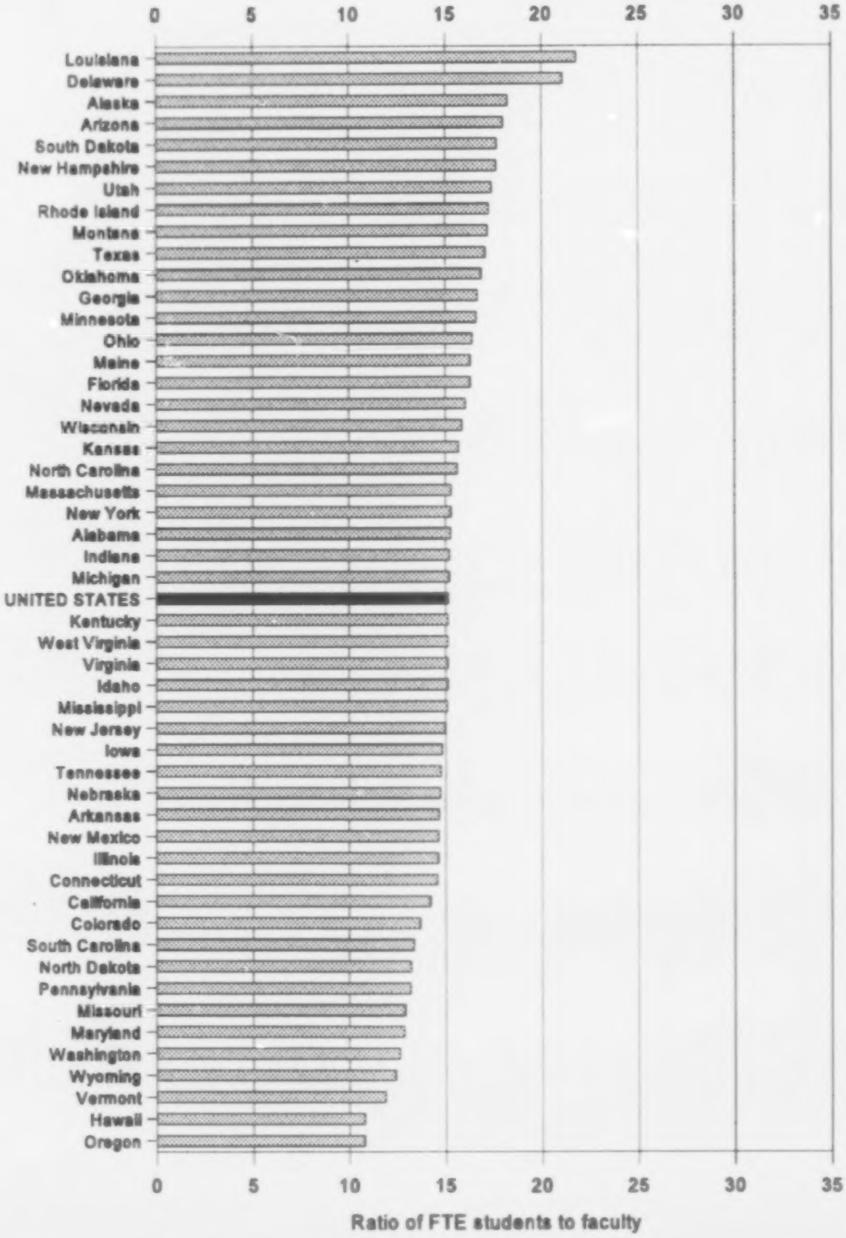
Figure 29b: Ratio of students to faculty in public 4-year higher education institutions, by state: Fall 1993



SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, *Staff* Survey, 1993; *Fall Enrollment* Survey, 1993–94.

Table 29: Ratios of students to staff and students to faculty in 4-year higher education institutions, by control of institution and state: Fall 1993

State	FTE-student-to-staff ratio		FTE-student-to-faculty ratio	
	Public	Private	Public	Private
UNITED STATES	**4.3**	**3.7**	**15.2**	**12.5**
Alabama	3.2	4.9	15.3	14.0
Alaska	5.8	4.8	18.2	13.1
Arizona	4.4	14.5	18.0	31.7
Arkansas	3.9	5.1	14.7	15.1
California	4.6	4.0	14.2	12.8
Colorado	5.1	5.1	13.7	14.3
Connecticut	4.3	2.9	14.6	8.6
Delaware	4.8	8.5	21.1	21.9
District of Columbia	4.5	2.1	11.4	10.0
Florida	4.7	4.4	16.3	13.7
Georgia	4.2	3.5	16.7	12.3
Hawaii	3.9	7.6	10.8	19.0
Idaho	5.5	5.7	15.1	12.5
Illinois	3.7	3.6	14.6	12.2
Indiana	4.5	4.3	15.2	14.1
Iowa	3.4	5.2	14.8	14.7
Kansas	4.7	5.3	15.7	13.3
Kentucky	4.4	5.0	15.1	13.[illegible]
Louisiana	7.4	3.7	21.8	12.1
Maine	4.7	4.0	16.3	14.1
Maryland	4.3	2.3	12.9	8.1
Massachusetts	4.3	3.4	15.3	13.1
Michigan	4.1	6.1	15.2	17.3
Minnesota	4.1	5.3	16.6	14.2
Mississippi	3.5	6.5	15.1	18.6
Missouri	4.3	3.9	12.9	12.5
Montana	5.6	5.3	17.2	15.7
Nebraska	3.9	4.2	14.7	11.5
Nevada	5.3	7.6	16.0	27.3
New Hampshire	5.6	3.7	17.7	12.3
New Jersey	3.7	3.8	15.0	13.1
New Mexico	3.4	5.5	14.6	13.3
New York	5.0	3.1	15.3	11.2
North Carolina	4.0	2.2	15.6	11.0
North Dakota	4.4	8.3	13.2	18.0
Ohio	4.6	5.0	16.4	13.7
Oklahoma	5.1	5.1	16.9	14.0
Oregon	3.5	5.0	10.8	12.6
Pennsylvania	3.9	3.5	13.2	11.1
Rhode Island	5.4	4.2	17.3	15.1
South Carolina	3.6	5.1	13.4	15.5
South Dakota	6.3	5.4	17.7	14.0
Tennessee	4.3	2.4	14.8	10.0
Texas	4.2	4.0	17.1	12.7
Utah	4.9	7.8	17.4	20.6
Vermont	3.9	4.2	11.9	13.4
Virginia	3.8	4.2	15.1	12.6
Washington	3.2	5.2	12.6	12.4
West Virginia	5.4	5.5	15.1	15.4
Wisconsin	4.7	4.6	15.9	12.7
Wyoming	3.5	—	12.4	—

— Not applicable or available.
SOURCE: U.S. Department of Educaation, National Center for Education Statistics, Integrated Postsecondary Education Data System, *Staff* and *Fall Enrollment* surveys, Fall 1993.

Indicator 30: Higher education faculty salaries

Faculty salaries are a primary factor in attracting and retaining the most qualified instructional personnel. Additionally, salaries are a considerable component of higher education expenditures and may influence the level of tuition charged to students. These factors can be seen by comparing the difference between the average salaries of faculty employed at 2-year public institutions versus their counterparts at 4-year institutions and the difference between tuition at 2-year and 4-year public institutions (Indicator 7). This indicator presents the average salary of full-time instructional faculty on 9-month contracts at higher education institutions.

- **In 1993, average annual salaries for full-time faculty at 2-year public higher education institutions ranged from about $25,000 in South Dakota to $51,000 in Alaska. Average salaries in 35 states were between $30,000 and $45,000.**

- **Faculty at 2-year private higher education institutions were generally less well compensated than faculty in 2-year public institutions. Faculty at private 2-year institutions in no state had an average salary above $40,000, and faculty at private institutions in only 5 states had higher average salaries than their counterparts at public institutions.**

- **Faculty at 4-year public institutions received higher salaries than their counterparts in 2-year public institutions. Faculty at 4-year public institutions in 8 states had average salaries below $40,000, while faculty at 2-year public institutions in 34 states had salaries below that level. Alaska was the only state in which salaries at 2-year public institutions exceeded salaries at both 4-year public and 4-year private institutions.**

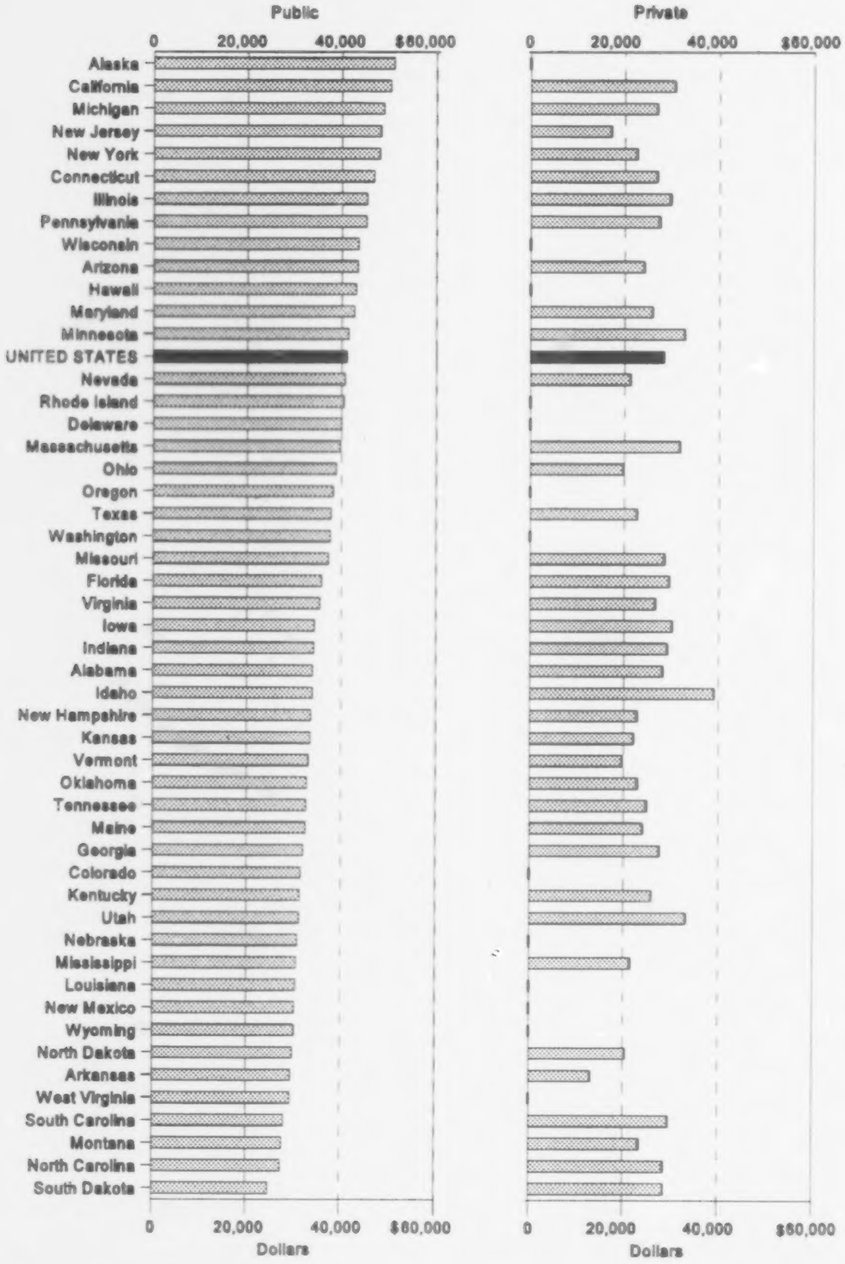
- **For the nation as a whole, the average salary of faculty at 4-year private institutions was about equal to that of their counterparts at 4-year public institutions.**

Notes on interpretation:

The faculty salaries presented here are not adjusted for varying working conditions, such as course frequency, degree of research responsibility, or level of training. They are also not adjusted across states for variations in cost of living. Moreover, they do not include fringe benefits.

A wide variety of types of institutions are subsumed under the category "4-year higher education institution," including small liberal arts colleges which emphasize classroom teaching and large doctorate-granting universities with graduate professional schools that emphasize research. Salaries at the latter type generally exceed those at the former type, but can range widely within each type.

Figure 30a: **Average salary of full-time instructional faculty on 9-month contracts at 2-year higher education institutions, by control of institution and state: Academic year 1993–94**



SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), *Salary* survey, 1993–94.

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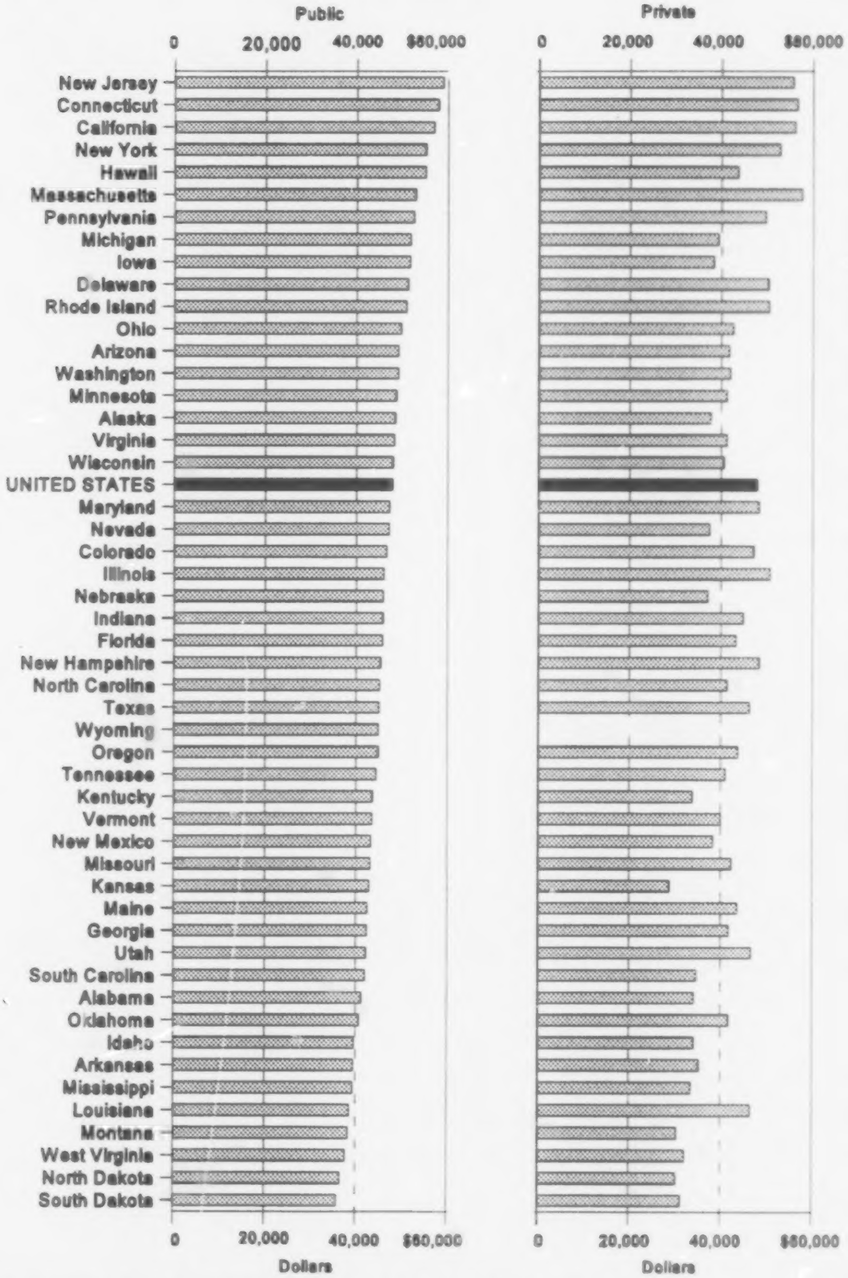
Figure 30b: Average salary of full-time instructional faculty on 9-month contracts at 4-year higher education institutions, by control of institution and state: Academic year 1993–94



NOTE: States are sorted from high to low based on average salaries in *public* institutions.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), *Salary* Survey, 1993–94.

Table 30: Average salary of full-time instructional faculty on 9-month contracts at higher education institutions, by level of education, control of institution, and state: Academic year 1993–94

State	2-year		4-year	
	Public		Public	Private
UNITED STATES	**$41,040**	**$28,468**	**$47,988**	**$47,880**
Alabama	34,037	28,181	41,248	34,129
Alaska	51,052	—	48,556	37,705
Arizona	43,395	24,121	49,225	41,724
Arkansas	29,506	13,109	39,498	35,241
California	50,368	30,608	57,051	56,089
Colorado	31,598	—	46,709	47,060
Connecticut	46,813	26,857	57,982	56,572
Delaware	40,011	—	51,371	50,219
District of Columbia	—	—	49,114	53,046
Florida	35,795	29,530	45,865	43,204
Georgia	32,096	27,568	42,401	41,687
Hawaii	42,967	—	55,155	43,631
Idaho	33,977	39,034	39,680	34,194
Illinois	45,283	29,700	46,076	50,700
Indiana	34,211	29,172	45,902	44,870
Iowa	34,329	30,160	51,711	38,326
Kansas	33,478	22,054	42,973	28,687
Kentucky	31,339	25,846	43,646	33,756
Louisiana	30,464	—	38,643	46,497
Maine	32,514	24,047	42,521	43,663
Maryland	42,617	25,839	47,376	48,225
Massachusetts	39,721	31,709	52,946	57,561
Michigan	48,882	26,828	51,919	39,293
Minnesota	41,376	32,702	48,805	41,221
Mississippi	30,636	21,406	39,433	33,570
Missouri	37,318	28,468	43,187	42,306
Montana	27,701	23,373	38,357	30,417
Nebraska	30,879	—	45,931	37,079
Nevada	40,736	21,233	47,239	37,401
New Hampshire	33,682	22,760	45,409	48,338
New Jersey	48,185	17,098	59,045	55,713
New Mexico	30,270	—	43,306	38,308
New York	48,027	22,617	55,204	52,819
North Carolina	27,454	28,460	45,208	41,403
North Dakota	29,874	20,426	36,618	30,261
Ohio	38,902	19,744	49,841	42,590
Oklahoma	32,769	22,867	40,796	41,668
Oregon	38,321	—	44,890	43,796
Pennsylvania	45,218	27,381	52,646	49,629
Rhode Island	40,398	—	51,037	50,429
South Carolina	28,085	29,494	42,078	34,640
South Dakota	24,780	28,500	35,929	31,243
Tennessee	32,652	24,810	44,485	41,014
Texas	37,760	22,681	45,110	46,294
Utah	31,244	33,209	42,330	46,664
Vermont	33,087	19,700	43,599	39,953
Virginia	35,503	26,573	48,313	41,257
Washington	37,607	—	49,187	41,930
West Virginia	29,378	—	37,806	32,173
Wisconsin	43,548	—	48,040	40,524
Wyoming	30,162	—	44,923	—

— Not applicable or not available.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), *Salary* Survey, 1993–94.

Indicator 31: Current expenditure in public elementary and secondary schools

"Current" expenditure is spending on educational goods and services whose lifespan should not in theory exceed the current year, such as salaries of staff, educational supplies, minor repairs and maintenance, and administration. It excludes those expenditures associated with long-term investments, such as capital expenditure (e.g., land, building, or large equipment purchases) and debt service (e.g., interest payments on bonds). Thus, current expenditure represents that proportion of expenditure intended for the current delivery of educational services. That proportion of current expenditure designated for "instruction" includes the salaries of teachers and teachers' aides and spending on curriculum materials. It excludes spending on student services, such as school nurses and therapists, building maintenance, school cafeterias, bus transportation, after-school sports programs and the like. Thus, "instructional" expenditure best represents that proportion of current expenditure intended for the core service of schools—academic instruction.

- **In the 1992–93 school year, current expenditures per student in public elementary and secondary schools ranged from less than $3,000 in Utah to over $8,500 in New Jersey, a nearly threefold difference. However, all but seven states had per-student current expenditures within the range of $3,500 to $6,500.**

- **Four states—New Jersey, Alaska, New York, and Connecticut—had current expenditures per student in excess of $7,500. Each of these states spent over $1,000 more per student than the state with the next highest level of current expenditure, Rhode Island ($6,418).**

- **All of the states except Alaska had instructional expenditures as a percentage of current expenditure on education within the range of 57 to 67 percent.**

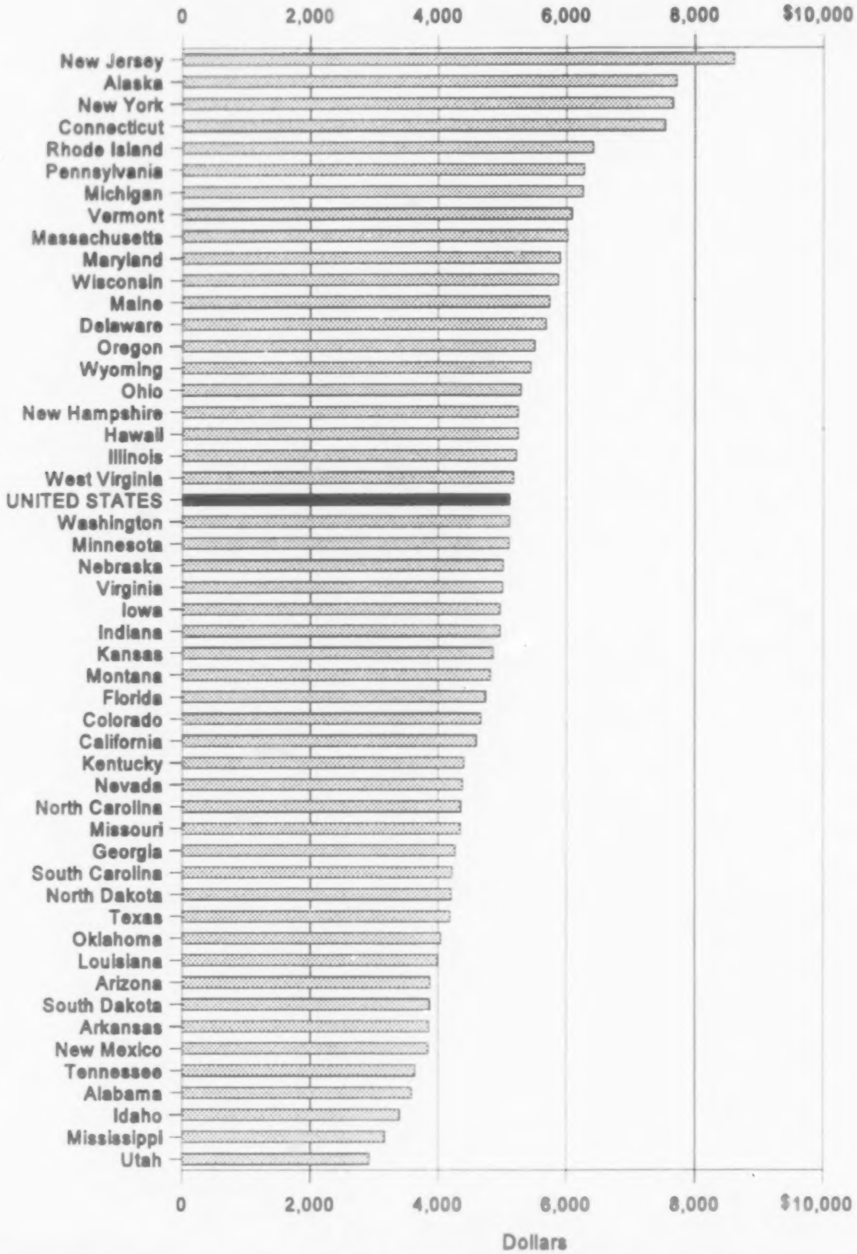
- **The 2 states with the highest per-student current expenditure—New Jersey and Alaska—were among the 10 states with the lowest percentage of current expenditure used for instruction. New York, the state with the third-highest current expenditure per student, had the highest percentage of current expenditure used for instruction.**

Notes on interpretation:

Expenditure figures are not adjusted across states to reflect variations in the cost-of-living.

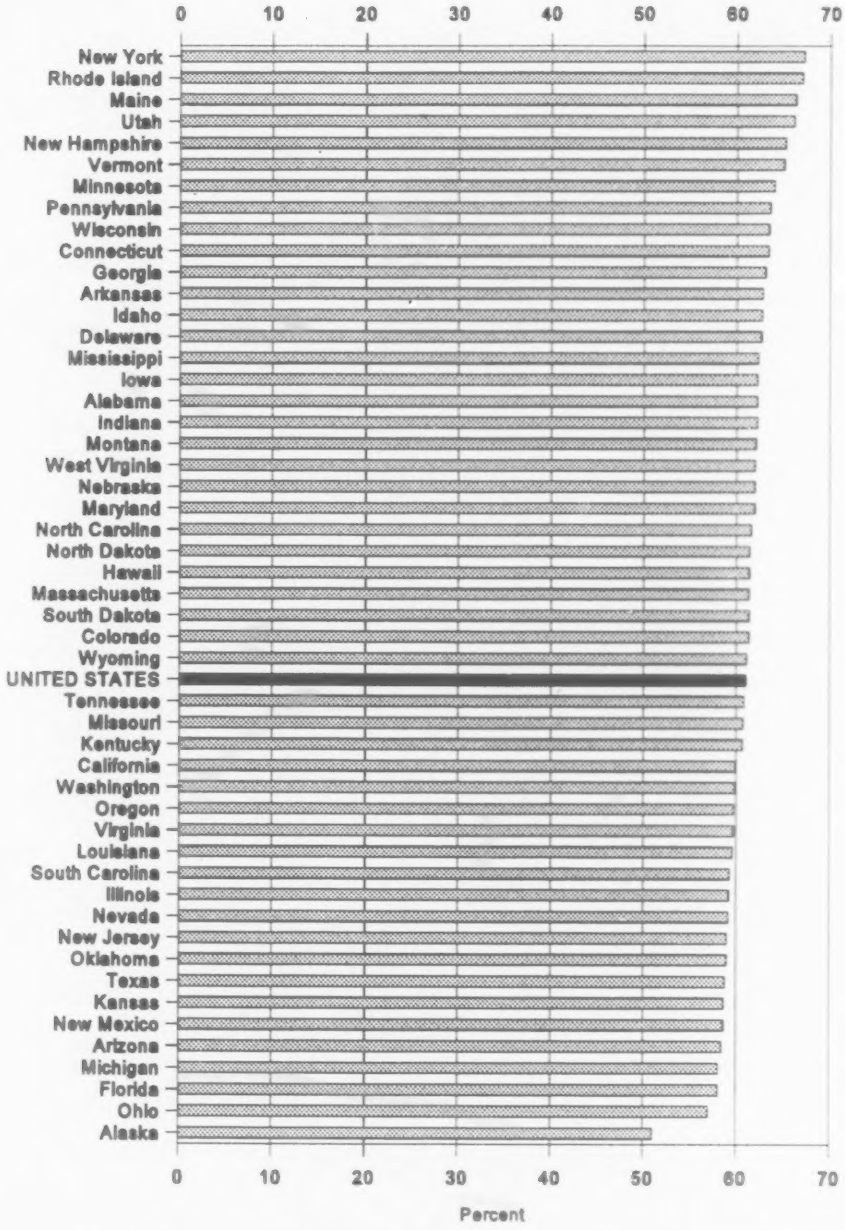
Because teacher salaries make up such a large proportion of instructional expenditure, the same factors that heavily influence teacher salary levels, such as teachers' average years of experience and number of graduate degrees, will influence the proportion of current expenditure that is used for "instruction." One state could actually provide more hours of instruction per student (with less expensive teachers) than another state, but still spend a smaller proportion of current expenditure on instruction (if the other state employs relatively expensive teachers).

Figure 31a: Current expenditure per student in public elementary and secondary schools, by state: School year 1992–93



SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, *National Public Education Financial Survey* (based on: *Digest of Education Statistics, 1995*, Table 160; *Digest of Education Statistics, 1994*, Table 41.

Figure 31b: Instructional expenditure as a percentage of all current expenditure in public elementary and secondary schools, by state: School year 1992–93



SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, *National Public Education Financial Survey* (based on: *Digest of Education Statistics, 1995,* Table 163).

Table 31: Per-student current expenditure and instructional expenditure as a percentage of all current expenditure in public elementary and secondary schools, by state: School year 1992–93

State	Per-student expenditure	Percentage of expenditure used on instruction
UNITED STATES	**$5,115**	**61.0**
Alabama	3,591	62.2
Alaska	7,720	51.2
Arizona	3,874	58.4
Arkansas	3,854	62.8
California	4,597	59.9
Colorado	4,671	61.3
Connecticut	7,533	63.4
Delaware	5,684	62.6
District of Columbia	8,286	50.6
Florida	4,741	58.1
Georgia	4,269	63.1
Hawaii	5,244	61.4
Idaho	3,398	62.7
Illinois	5,218	59.2
Indiana	4,971	62.2
Iowa	4,971	62.2
Kansas	4,864	58.7
Kentucky	4,403	60.7
Louisiana	3,997	59.6
Maine	5,736	66.3
Maryland	5,898	61.9
Massachusetts	6,017	61.4
Michigan	6,256	58.1
Minnesota	5,103	64.0
Mississippi	3,164	62.3
Missouri	4,350	60.7
Montana	4,817	62.1
Nebraska	5,016	61.9
Nevada	4,390	59.2
New Hampshire	5,249	65.2
New Jersey	8,612	59.0
New Mexico	3,849	58.6
New York	7,658	67.2
North Carolina	4,355	61.6
North Dakota	4,210	61.4
Ohio	5,290	57.2
Oklahoma	4,045	59.0
Oregon	5,508	59.7
Pennsylvania	6,275	63.6
Rhode Island	6,418	67.0
South Carolina	4,226	59.3
South Dakota	3,872	61.3
Tennessee	3,642	60.8
Texas	4,192	58.8
Utah	2,926	66.1
Vermont	6,083	65.1
Virginia	5,001	59.7
Washington	5,109	59.8
West Virginia	5,173	62.0
Wisconsin	5,873	63.4
Wyoming	5,442	61.1

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, *National Public Education Financial Survey* (based on: *Digest of Education Statistics, 1995*, Table 160); *Digest of Education Statistics, 1994*, Table 41.

Indicator 32: Higher education expenditures

Educational and general expenditures cover all activities of higher education institutions except for auxiliary enterprises and independent operations, such as hospitals, large intercollegiate athletic sports facilities, and independent research centers. Gross State Product (GSP) is an aggregate measure of the value of goods and services produced in a state; the percentage of GSP spent on education from public sources corresponds to the share of a state's wealth that it invests in education. Variations in these measures across states reflect differences in income levels as well as policy priorities and preferences. This indicator measures the educational and general expenditures of each state's higher education institutions, calculated per student and as a proportion of GSP for public institutions.

- **In 1993, Alaska and Montana had the highest expenditures for 2-year public higher education institutions—over $10,000 per student. In 42 states, per-student expenditures ranged between $5,000 and $9,000.**

- **Expenditures for public 4-year higher education institutions ranged between $10,000 and $20,000 per student for all but three states: South Dakota ($9,200), Washington ($21,000), and Hawaii ($25,000). Variation for private institutions was much greater, from under $5,000 (Arizona) to over $50,000 (Maryland).**

- **Whereas no state applied more than 0.6 percent of its GSP to expenditures for public 2-year higher education institutions, only one state—New Jersey, applied less than that percentage to expenditures for public 4-year institutions.**

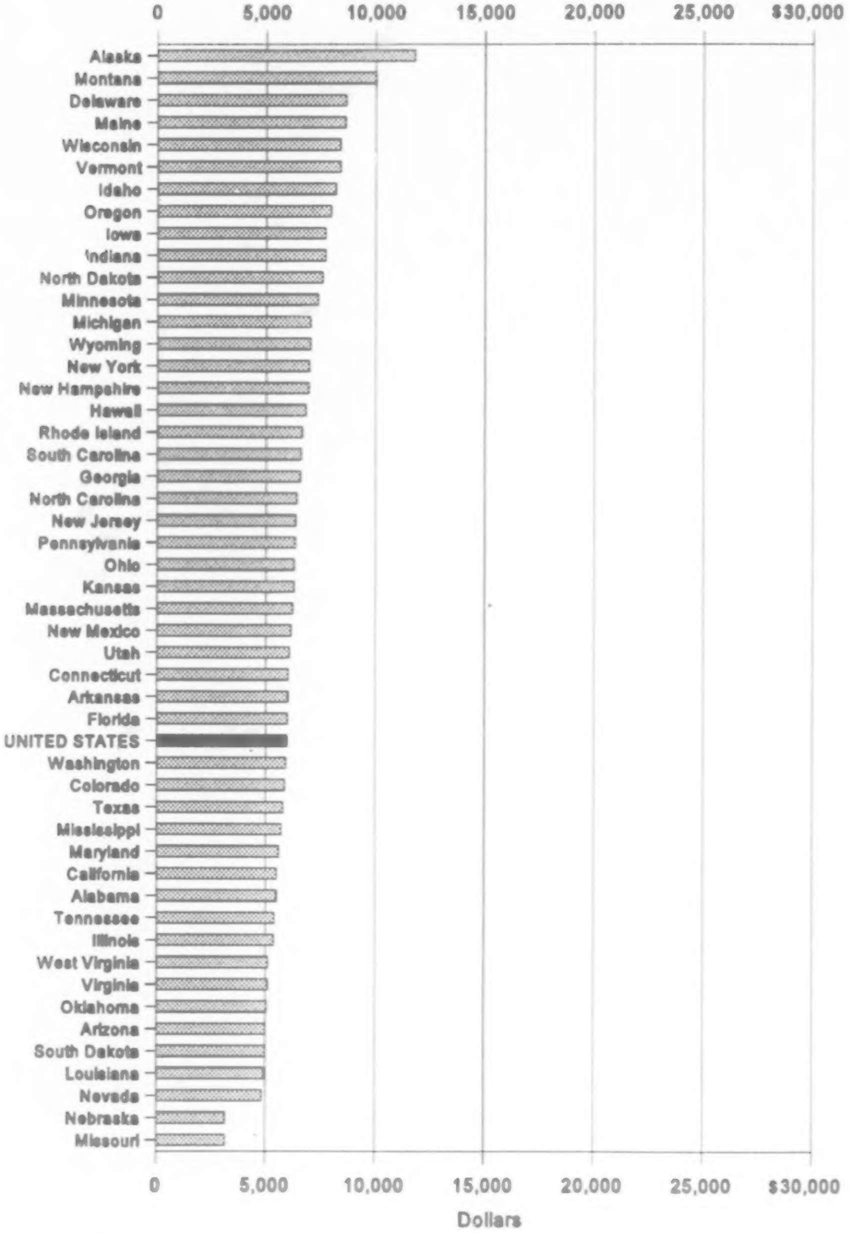
- **In 4 states—North Dakota, Utah, New Mexico, and Vermont—over 2 percent of the GSP was applied to expenditures of public 4-year higher education institutions. In 37 states, between 1 and 2 percent of GSP was devoted to expenditures on public higher education institutions (2-year and 4-year).**

Notes on interpretation:

Fiscal effort measures, such as expenditure as a percentage of gross product, do not directly convey information about the absolute quantity of resources that a state devotes to each student's education. The measure can also be heavily influenced by the proportion of the population of school-age students and those in school.

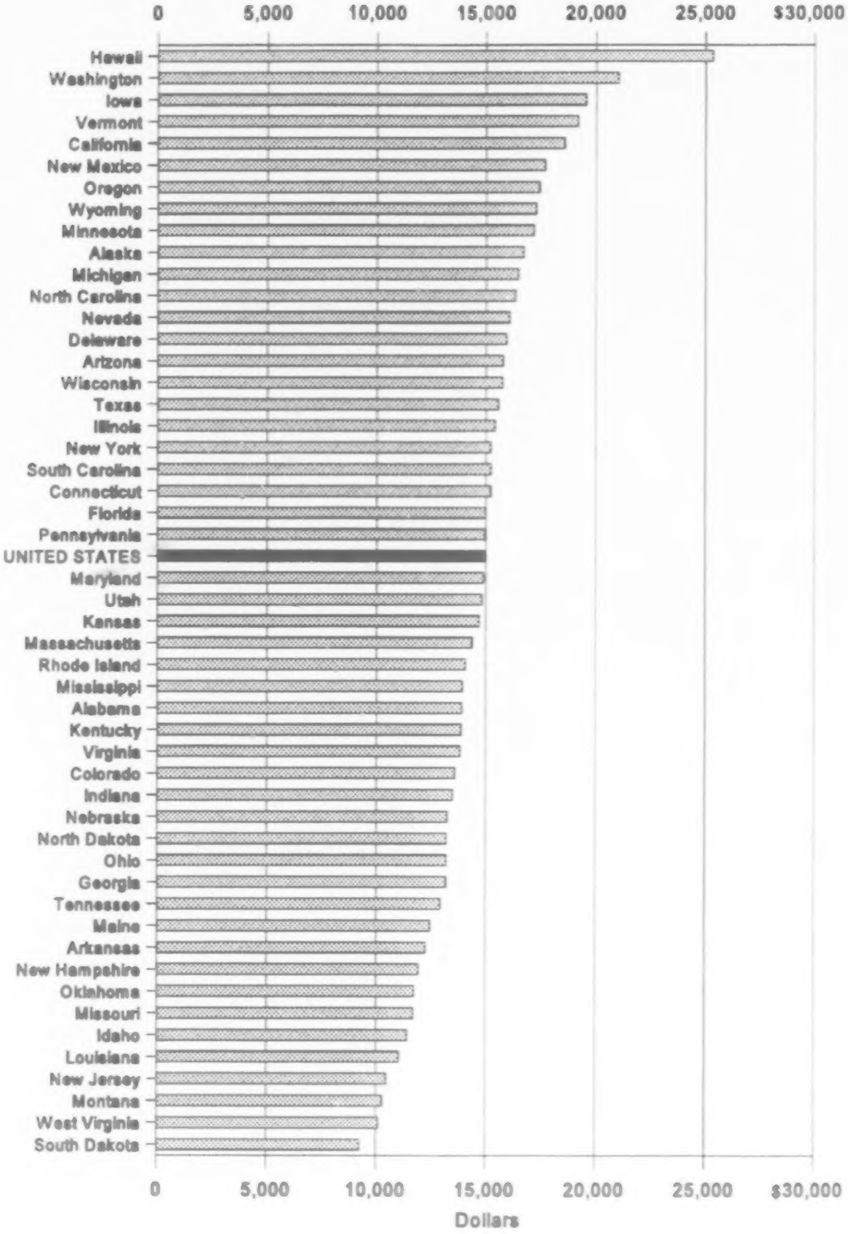
These figures represent gross, not net, expenditures. Net expenditures would account for revenues gained from student tuition and fees at public institutions and from other sources. A state with a high level of public higher education gross expenditure and high student tuition and fees at public institutions may be making no greater public investment in higher education than a state with lower expenditures and very low tuition and fees. In order to see a more complete accounting of each state's total public and private investment in higher education, the information in this indicator should be supplemented by Indicator 7: Average higher education tuition.

Figure 32a: **Educational and general expenditures per full-time-equivalent student at 2-year public higher education institutions, by state: 1993**



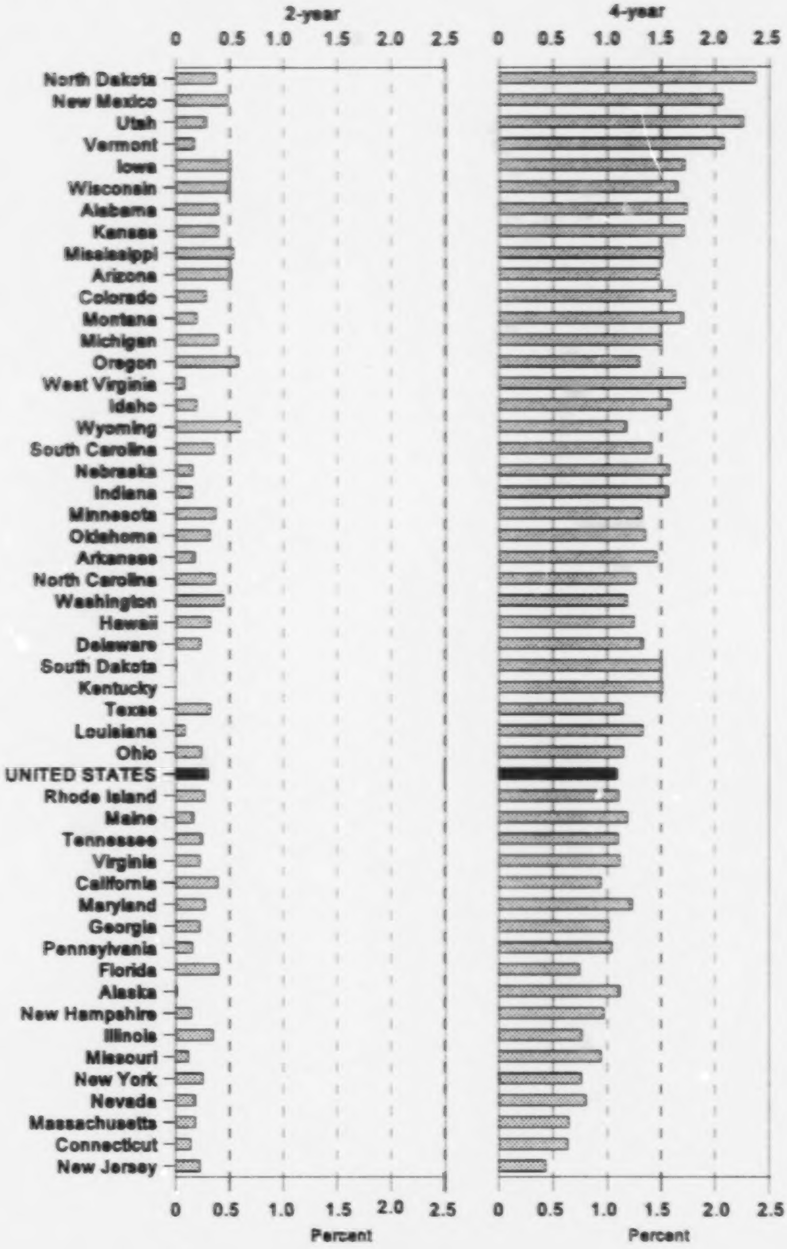
SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), *Finance* survey, 1993; *Fall Enrollment* survey, 1993.

Figure 32b: Educational and general expenditures per full-time-equivalent student at 4-year public higher education institutions, by state: 1993



SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), *Finance* survey, 1993; *Fall Enrollment* survey, 1993.

Figure 32c: Educational and general expenditures of public higher education institutions as a percentage of gross state product,* by level of education and state: 1993



* Gross State Product (GSP) figures are for 1992, the most recent available.
NOTE: States are sorted from high to low based on the sum of the two figures.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS) *Finance* survey, 1993. U.S. Department of Commerce, Bureau of Economic Analysis, Gross State Product Tables.

Table 32a: Educational and general expenditures per full-time-equivalent student at higher education institutions, by level of education, control of institution, and state: 1993

State	2-year		4-year	
	Public	Private	Public	Private
UNITED STATES	**$5,963**	**$8,450**	**$14,930**	**$21,641**
Alabama	5,477	8,018	13,924	13,552
Alaska	11,786	12,684	16,708	17,242
Arizona	4,993	7,635	15,796	4,680
Arkansas	6,004	9,368	12,274	11,261
California	5,503	11,732	18,572	26,180
Colorado	5,867	7,921	13,616	16,406
Connecticut	6,016	12,240	15,229	35,844
Delaware	8,668	—	15,954	5,648
District of Columbia	—	—	16,551	29,621
Florida	5,997	8,583	14,999	17,194
Georgia	6,564	7,965	13,204	20,430
Hawaii	6,800	—	25,348	11,721
Idaho	8,193	6,351	11,432	13,882
Illinois	5,351	7,176	15,422	22,201
Indiana	7,704	4,909	13,506	15,629
Iowa	7,714	10,746	19,563	14,393
Kansas	6,276	15,657	14,713	11,098
Kentucky	—	6,423	13,891	11,950
Louisiana	4,903	6,121	11,054	21,006
Maine	8,634	5,865	12,470	16,931
Maryland	5,594	10,634	14,907	50,475
Massachusetts	6,241	8,216	14,386	31,082
Michigan	7,028	11,738	16,477	12,420
Minnesota	7,367	7,850	17,195	16,491
Mississippi	5,706	13,347	13,959	10,468
Missouri	3,137	9,476	11,724	21,700
Montana	10,033	7,756	10,278	9,885
Nebraska	3,155	6,363	13,277	16,958
Nevada	4,833	32,864	16,092	8,399
New Hampshire	6,952	4,777	11,947	22,526
New Jersey	6,356	9,440	10,478	23,969
New Mexico	6,157	4,814	17,701	12,753
New York	6,963	9,777	15,246	25,683
North Carolina	6,408	12,073	15,246	23,533
North Dakota	7,586	15,832	13,224	9,307
Ohio	6,284	5,184	13,207	16,978
Oklahoma	5,046	16,766	11,741	14,254
Oregon	7,964	9,973	17,443	16,063
Pennsylvania	6,332	7,831	14,964	22,904
Rhode Island	6,636	10,399	14,082	18,188
South Carolina	6,592	7,926	15,242	12,052
South Dakota	4,988	7,545	9,228	11,791
Tennessee	5,376	6,077	12,951	20,325
Texas	5,777	6,627	15,580	19,576
Utah	6,081	4,890	14,850	10,380
Vermont	8,400	42,937	19,200	22,207
Virginia	5,083	9,722	13,853	15,955
Washington	5,925	7,410	21,032	14,276
West Virginia	5,087	6,470	10,104	13,975
Wisconsin	8,400	4,629	15,780	17,362
Wyoming	7,013	13,058	17,298	—

— Not applicable or not available.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), *Finance* Survey 1993; *Fall Enrollment* Survey, 1993.

Table 32b: Educational and general expenditures of public higher education institutions as a percentage of gross state product,* by level of education and state: 1993

State	Total	2-year institutions	4-year institutions
UNITED STATES	**1.39**	**0.30**	**1.09**
Alabama	2.28	0.54	1.74
Alaska	1.13	0.01	1.12
Arizona	1.99	0.51	1.48
Arkansas	1.64	0.18	1.46
California	1.33	0.39	0.94
Colorado	1.91	0.28	1.63
Connecticut	0.77	0.14	0.63
Delaware	1.56	0.23	1.33
District of Columbia	0.26	—	0.26
Florida	1.14	0.39	0.75
Georgia	1.24	0.23	1.01
Hawaii	1.57	0.32	1.25
Idaho	1.78	0.19	1.59
Illinois	1.12	0.35	0.77
Indiana	1.71	0.15	1.56
Iowa	2.23	0.51	1.72
Kansas	2.11	0.40	1.71
Kentucky	1.51	—	1.51
Louisiana	1.42	0.09	1.33
Maine	1.35	0.16	1.19
Maryland	1.32	0.27	1.05
Massachusetts	0.82	0.18	0.64
Michigan	1.89	0.39	1.50
Minnesota	1.69	0.37	1.32
Mississippi	2.05	0.54	1.51
Missouri	1.06	0.12	0.94
Montana	1.90	0.20	1.70
Nebraska	1.74	0.16	1.58
Nevada	0.99	0.18	0.81
New Hampshire	1.11	0.14	0.97
New Jersey	0.66	0.23	0.43
New Mexico	2.55	0.48	2.07
New York	1.01	0.25	0.76
North Carolina	1.63	0.37	1.26
North Dakota	2.75	0.38	2.37
Ohio	1.39	0.24	1.15
Oklahoma	1.67	0.32	1.35
Oregon	1.88	0.58	1.30
Pennsylvania	1.20	0.16	1.04
Rhode Island	1.38	0.27	1.11
South Carolina	1.76	0.35	1.41
South Dakota	1.52	0.01	1.51
Tennessee	1.34	0.24	1.10
Texas	1.47	0.32	1.15
Utah	2.55	0.29	2.26
Vermont	2.25	0.17	2.08
Virginia	1.35	0.23	1.12
Washington	1.63	0.45	1.18
West Virginia	1.80	0.08	1.72
Wisconsin	2.15	0.50	1.65
Wyoming	1.77	0.60	1.17

— Not applicable or not available.

* Gross State Product (GSP) figures are for 1992, the most recent available.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), *Finance* Survey, 1993. U.S. Department of Commerce, Bureau of Economic Analysis, Gross State Product tables.

Indicator 33: Components of higher education expenditures

Tuition revenue as a percentage of total educational expenditure can be considered a rough measure of the cost-to-benefit ratio for higher education students in a state: the higher the tuition, the greater the cost to a student; the higher the expenditure, the greater the benefit to a student. Instructional expenditures as a percentage of educational expenditures in higher education institutions represents the proportion of available funds dedicated to the primary mission of the colleges and universities. The remainder—the non-instructional expenditures— include such expenses as general administration, research, operation and maintenance of plant and equipment, and student services. This indicator shows both revenue from tuition and fees and instructional expenditures as proportions of total educational and general expenditures in public higher education institutions in each state.

- **In 1993, California and Alaska had the smallest tuition and fee revenue to expenditure ratios for public 2-year institutions; in both states the ratios were less than 10 percent. Hawaii, Alaska, New Mexico, and North Carolina had the smallest ratios for public 4-year institutions; all were below 15 percent.**

- **While the average tuition revenue to expenditure ratios for the entire United States were roughly equal for public 2-year and public 4-year institutions, ratios for public 4-year institutions had a slightly wider variation, ranging from about 9 percent (Hawaii) to 51 percent (Vermont). Ratios for public 2-year institutions ranged from about 8 percent (California) to 41 percent (Vermont).**

- **Instructional expenditures as a proportion of educational and general expenditures were higher for 2-year than for 4-year public institutions nationally and in all but five states—Idaho, Indiana, Ohio, Vermont, and West Virginia.**

- **There tended to be more variation across the states in the ratios of instructional expenditures as a proportion of educational and general expenditures among 2-year than 4-year institutions. Ratios for 2-year institutions ranged from about 31 percent (Vermont) to 61 percent (Wisconsin). Ratios for 4-year institutions ranged from 28 percent (New Mexico) to 45 percent (Delaware and Ohio).**

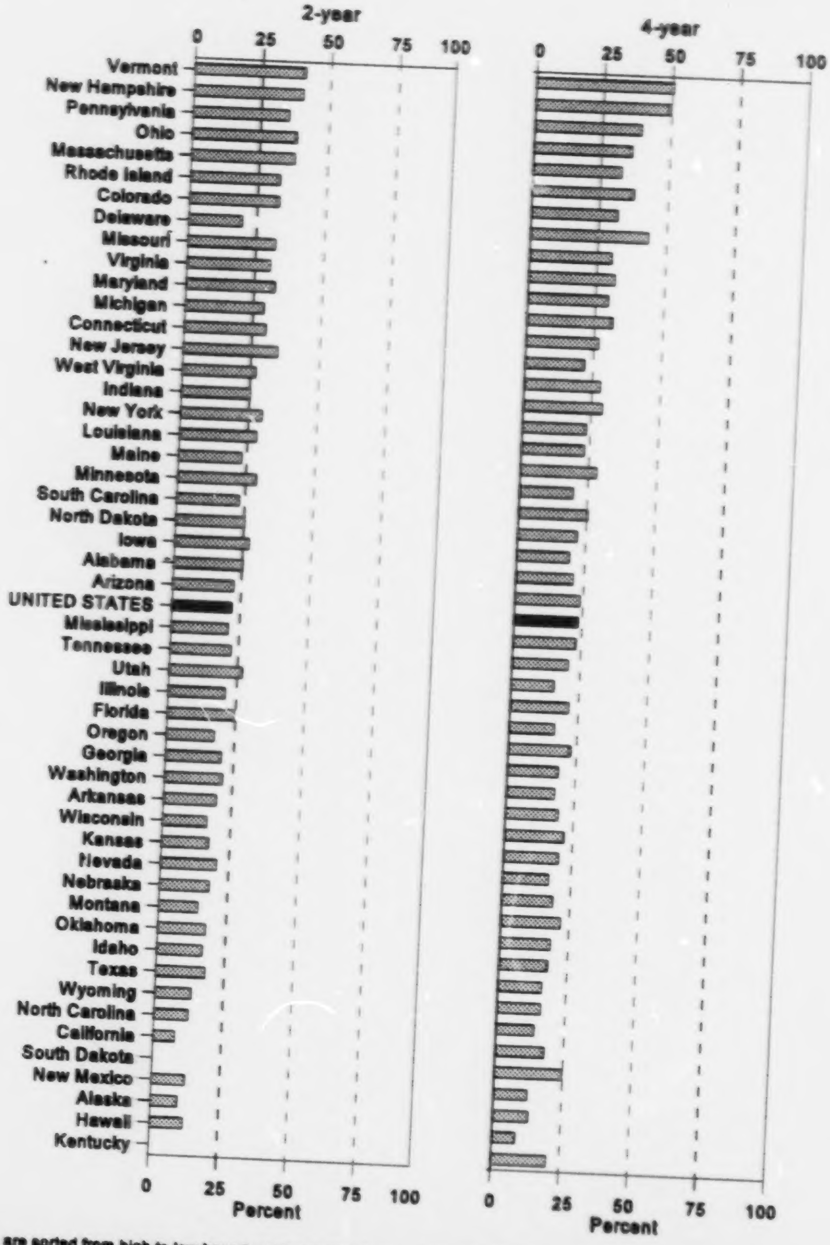
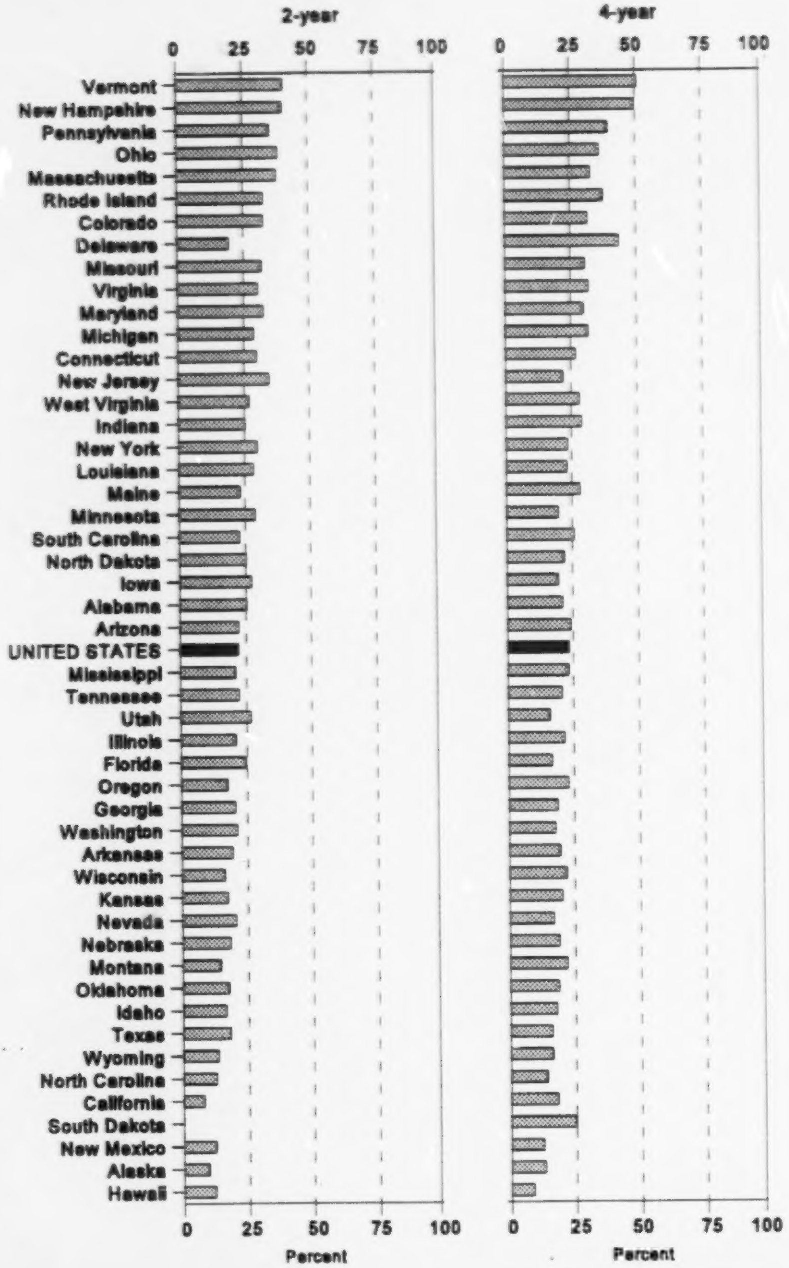


Figure 33a: Revenue from tuition and student fees as a percentage of educational and general expenditures in public higher education institutions, by level of education and state: 1993

NOTE: States are sorted from high to low based on the weighted average of the two figures. The proportions given to 2-year institutions or 4-year institutions in determining the weights for averaging are determined by the relative sizes of FTE enrollments.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), *Finance survey*, 1993.

Figure 33b: Instructional expenditures as a percentage of educational and general expenditures in public higher education institutions, by level of education and state: 1993



NOTE: States are sorted from high to low based on the weighted average of the two figures. The proportions given to 2-year institutions or 4-year institutions in determining the weights for averaging are determined by the relative sizes of FTE enrollments

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), *Finance* survey, 1993.

Table 33: Revenue from tuition and student fees and instructional expenditures as a percentage of educational and general expenditures in public higher education institutions, by level of education and state: 1993

State	Tuition and fee revenue as a percentage of educational and general expenditures		Instructional expenditures as a percentage of educational and general expenditures	
	2-year institutions	4-year institutions	2-year institutions	4-year institutions
UNITED STATES	**21.9**	**23**	**46**	**38.3**
Alabama	25.3	21.0	41.9	35.5
Alaska	9.6	13.0	51.6	32.3
Arizona	22.3	24.0	45.6	33.3
Arkansas	19.4	19.3	43.8	37.5
California	7.9	17.7	49.4	39.1
Colorado	32.8	26.4	44.1	37.8
Connecticut	29.9	25.0	38.2	37.5
Delaware	19.6	43.4	57.1	45.2
District of Columbia	—	24.1	—	40.3
Florida	24.5	16.6	43.3	37.7
Georgia	20.5	18.6	50.8	37.0
Hawaii	12.1	8.6	54.2	38.7
Idaho	16.6	17.7	36.3	40.1
Illinois	20.8	21.4	42.6	34.5
Indiana	25.3	28.9	35.0	41.1
Iowa	27.2	19.3	49.3	33.9
Kansas	17.3	20.1	40.9	35.8
Kentucky	—	20.2	—	35.8
Louisiana	28.3	23.1	46.5	37.2
Maine	23.2	28.0	46.2	35.3
Maryland	32.6	23.7	45.8	38.7
Massachusetts	37.9	32.6	39.3	36.4
Michigan	28.8	31.4	41.6	37.1
Minnesota	28.8	19.7	46.1	37.6
Mississippi	20.8	23.0	48.7	35.8
Missouri	32.1	30.3	47.2	43.9
Montana	14.4	21.9	35.7	34.3
Nebraska	18.2	18.7	42.0	38.0
Nevada	20.5	16.8	51.7	37.3
New Hampshire	40.1	49.5	47.9	33.9
New Jersey	34.6	21.7	41.3	38.1
New Mexico	12.2	12.4	40.3	27.8
New York	29.9	21.6	41.7	37.8
North Carolina	12.5	13.8	53.6	39.9
North Dakota	25.3	21.7	46.4	38.3
Ohio	38.4	35.4	43.4	45.4
Oklahoma	17.5	18.5	45.0	37.8
Oregon	17.5	22.8	47.9	35.7
Pennsylvania	35.3	39.3	47.3	38.4
Rhode Island	32.8	37.3	44.8	35.9
South Carolina	22.9	25.5	42.8	41.2
South Dakota	—	24.8	40.6	37.7
Tennessee	22.3	20.5	46.2	44.2
Texas	18.0	15.9	44.5	42.8
Utah	26.7	15.8	42.0	31.3
Vermont	40.6	50.5	30.9	33.0
Virginia	30.5	31.7	49.6	40.7
Washington	21.2	17.6	50.2	36.2
West Virginia	26.9	28.0	37.4	39.0
Wisconsin	16.3	21.7	61.1	31.9
Wyoming	13.4	16.0	42.7	37.5

— Not applicable or not available.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), *Finance* Survey, 1993.

Indicator 34: Sources of funds for public elementary and secondary education

Tracking funds for elementary and secondary education to their initial sources illuminates the relative roles of local, state, and federal governments in financing elementary and secondary education. The initial source of money for education often differs from the ultimate spender. For example, though local school districts in the United States generally operate the local public schools, much of the financing arrives in the form of transfers from state governments. Some of the state money, in turn, arrives in the form of transfers from the federal government. The *initial sources* of those transferred funds, then, are state and federal governments. Likewise, the initial source of funds spent on public schools can be either public or private. Student tuition and fees and gifts from patrons are examples of private sources of revenues for public schools. This indicator traces the path of education expenditures back to their origin among the levels of government and between public and private sources.

- **In 1992–93 in 10 states, the federal government provided more than 10 percent of the public revenue for public elementary and secondary schools. Mississippi was the only state where more than 15 percent of the public revenue for public schools came from the federal government.**

- **State governments in 25 states provided a majority of the public revenue for public elementary and secondary schools, while 21 states relied on local and intermediate governments for a majority of their public revenue.**

- **The percentage of public revenue for public elementary and secondary schools provided by state government varied greatly across the states. In New Hampshire, the state with the lowest percentage of state revenue, 8 percent of public funding was provided by the state. The percentage of revenue provided by New Mexico's state government was over 9 times greater (76 percent).**

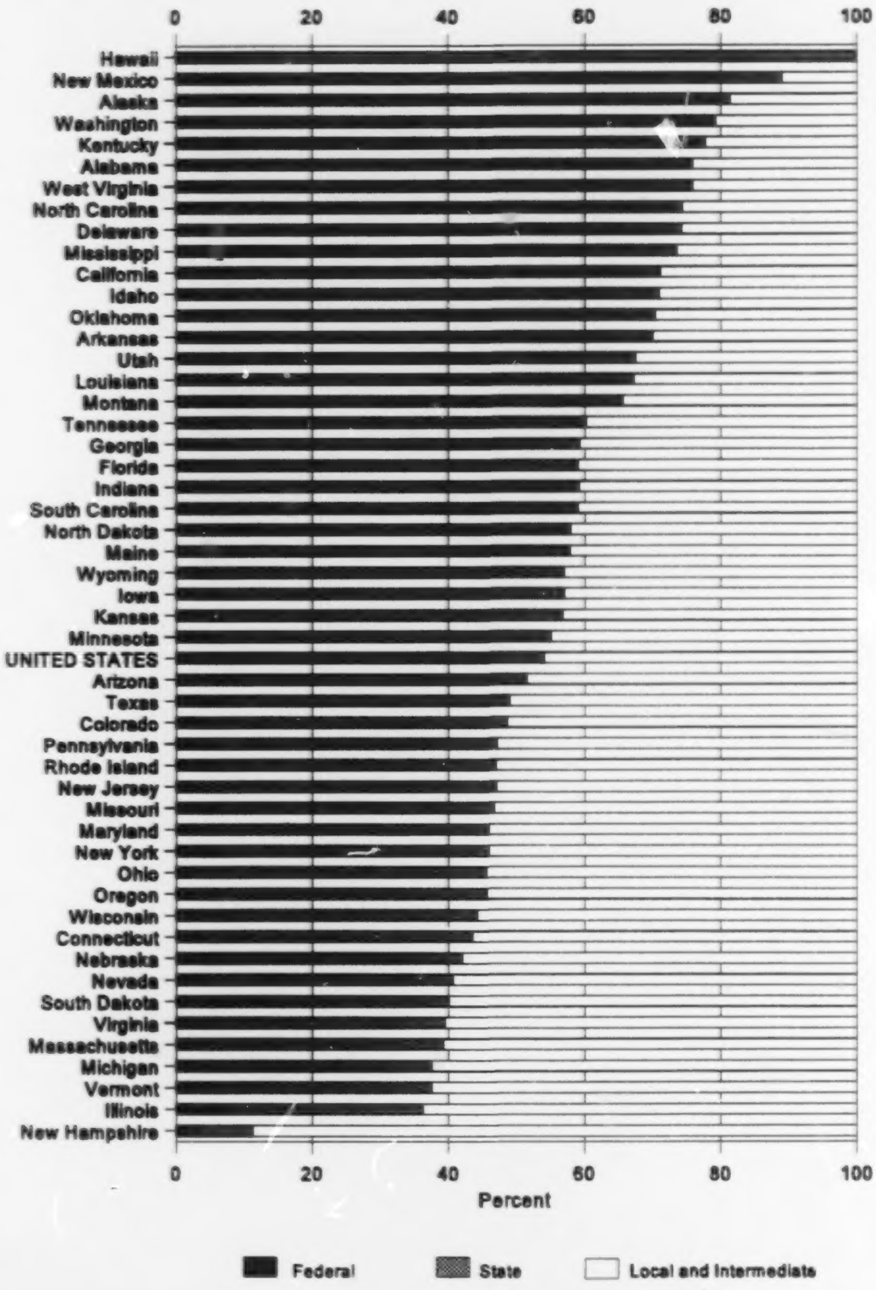
- **Likewise, the percentage of public revenue provided by local sources also varied greatly across the states, in a pattern opposite that of state sources. For example, New Mexico had a relatively low percentage of public revenue provided by local sources, at about 13 percent, while New Hampshire had the highest percentage of local funding (89 percent).**

- **Five states received more than 5 percent of all revenue for public elementary and secondary schools from private sources, while two states had less than 1 percent of revenue from private sources. The state with the highest percentage of private revenue, Alabama, had 8 percent of revenue provided privately—over 11 times more than the state with the lowest, Rhode Island (0.7 percent).**

Note on interpretation:

Private revenues included in this indicator consist of tuition and fees or gifts provided to public schools, not revenues for private schools.

Figure 34: Distribution of public revenue of public elementary and secondary schools, by source of funds and state: School year 1992–93



SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, *National Public Education Financial Survey* (based on: *Digest of Education Statistics, 1995*, Table 155).

Table 34a: Distribution of public revenue for public elementary and secondary schools, by source of funds and state: School year 1992–93

	Public sources only		
State	Federal	State	Local and intermediate
UNITED STATES	**7.1**	**46.9**	**46.0**
Alabama	12.7	63.2	24.1
Alaska	15.0	66.4	18.7
Arizona	9.0	42.4	48.5
Arkansas	10.0	60.0	30.0
California	8.1	62.9	28.9
Colorado	5.1	43.5	51.4
Connecticut	3.6	40.0	56.5
Delaware	7.0	67.2	25.8
District of Columbia	10.4	—	89.6
Florida	8.7	50.5	40.8
Georgia	7.9	51.4	40.7
Hawaii	7.8	91.6	0.6
Idaho	8.6	62.4	29.0
Illinois	7.2	29.2	63.6
Indiana	5.4	53.8	40.8
Iowa	5.7	51.3	43.0
Kansas	5.6	51.1	43.3
Kentucky	10.2	67.6	22.3
Louisiana	12.1	55.2	32.8
Maine	6.3	51.3	42.5
Maryland	5.6	40.7	53.8
Massachusetts	5.8	33.4	60.8
Michigan	6.3	31.2	62.5
Minnesota	5.0	50.1	44.9
Mississippi	17.8	55.8	26.4
Missouri	6.7	40.0	53.3
Montana	9.6	56.0	34.4
Nebraska	6.7	35.3	58.0
Nevada	4.8	35.5	59.6
New Hampshire	3.2	8.1	88.7
New Jersey	4.3	42.4	53.3
New Mexico	12.9	75.6	11.6
New York	6.1	39.8	54.1
North Carolina	8.4	65.9	25.7
North Dakota	12.6	45.6	41.9
Ohio	6.0	39.6	54.4
Oklahoma	7.5	62.9	29.6
Oregon	6.5	38.9	54.7
Pennsylvania	6.2	40.8	52.9
Rhode Island	6.0	40.9	53.1
South Carolina	9.8	49.2	41.0
South Dakota	12.0	28.1	60.0
Tennessee	11.1	49.0	39.8
Texas	7.7	41.2	51.1
Utah	7.4	60.1	32.6
Vermont	5.6	31.7	62.7
Virginia	6.4	33.1	60.5
Washington	5.8	73.5	20.8
West Virginia	7.8	68.0	24.1
Wisconsin	4.5	39.1	56.4
Wyoming	5.9	51.1	43.0

— Data not available or not applicable.

NOTE: Excludes revenues for state education agencies.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, *National Public Education Financial Survey* (based on: *Digest of Education Statistics, 1995*, Table 155).

Table 34b: Distribution of public and private revenue for public elementary and secondary schools, by source of funds and state: School year 1992–93

	Public sources				
State	Total	Federal	State	Local and	Private sources*
UNITED STATES	**97.3**	**6.9**	**45.6**	**44.7**	**2.7**
Alabama	91.9	11.6	58.1	22.2	8.1
Alaska	97.8	14.6	64.9	18.3	2.2
Arizona	97.7	8.8	41.5	47.4	2.3
Arkansas	95.3	9.6	57.1	28.6	4.7
California	98.8	8.0	62.2	28.6	1.2
Colorado	96.6	4.9	42.0	49.7	3.4
Connecticut	97.2	3.5	38.9	54.9	2.8
Delaware	98.4	6.9	66.1	25.3	1.6
District of Columbia	99.5	10.4	—	89.1	0.5
Florida	95.9	8.3	48.5	39.1	4.1
Georgia	98.0	7.7	50.4	39.9	2.0
Hawaii	98.4	7.6	90.1	0.6	1.6
Idaho	98.0	8.4	61.1	28.5	2.0
Illinois	97.6	7.1	28.5	62.0	2.4
Indiana	96.9	5.2	52.1	39.5	3.1
Iowa	94.1	5.4	48.2	40.5	5.9
Kansas	97.2	5.5	49.7	42.0	2.8
Kentucky	99.2	10.1	67.0	22.1	0.8
Louisiana	97.4	11.7	53.8	31.9	2.6
Maine	98.9	6.2	50.7	42.0	1.1
Maryland	96.9	5.4	39.4	52.1	3.1
Massachusetts	98.0	5.6	32.7	59.6	2.0
Michigan	98.1	6.2	30.6	61.4	1.9
Minnesota	96.2	4.8	48.1	43.2	3.8
Mississippi	96.2	17.1	53.7	25.4	3.8
Missouri	95.9	6.4	38.3	51.1	4.1
Montana	96.0	9.2	53.8	33.0	4.0
Nebraska	93.8	6.3	33.2	54.4	6.2
Nevada	96.4	4.7	34.2	57.5	3.6
New Hampshire	97.7	3.1	7.9	86.6	2.3
New Jersey	97.7	4.2	41.4	52.1	2.3
New Mexico	97.5	12.6	73.7	11.3	2.5
New York	98.5	6.0	39.2	53.3	1.5
North Carolina	96.0	8.1	63.3	24.7	4.0
North Dakota	94.7	11.9	43.1	39.6	5.3
Ohio	96.1	5.8	38.0	52.3	3.9
Oklahoma	95.4	7.1	60.0	28.3	4.6
Oregon	97.1	6.3	37.8	53.1	2.9
Pennsylvania	98.0	6.1	40.0	51.8	2.0
Rhodelsland	99.3	6.0	40.6	52.7	0.7
South Carolina	95.6	9.3	47.0	39.2	4.4
South Dakota	96.9	11.6	27.2	58.1	3.1
Tennessee	92.9	10.3	45.6	37.0	7.1
Texas	97.1	7.5	40.0	49.6	2.9
Utah	96.5	7.1	58.0	31.4	3.5
Vermont	98.1	5.5	31.1	61.6	1.9
Virginia	97.2	6.2	32.1	58.8	2.8
Washington	97.0	5.6	71.3	20.1	3.0
West Virginia	98.5	7.7	67.0	23.8	1.5
Wisconsin	98.1	4.4	38.3	55.3	1.9
Wyoming	98.3	5.8	50.3	42.3	1.7

— Data not available or not applicable.

* Includes revenues from gifts and tuition and fees from patrons. Includes only private revenue at public schools; private school revenues not included.

NOTE: Excludes revenues for state education agencies. Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data, *National Public Education Financial Survey* (based on: *Digest of Education Statistics, 1996*, Table 156).

SUPPLEMENTAL NOTES

SUPPLEMENTAL NOTES

Note on

- **All indicators**

Due to the unique nature of the District of Columbia, its data were found to be highly volatile and, at times, different in character from that of the states. District of Columbia data, then, are included in the tables, but not in the figures, so as not to invite comparison. Moreover, these data are not considered in the highlights listed on the first page of each indicator.

Note on

- **Indicator 2: Wealth and income**

Due to the presence in the District of Columbia workforce of many who reside in the suburbs outside the District, the gross product of the District is abnormally large relative to its residential population. It is the size of its residential population, however, that more directly determines its educational expenditure.

Notes on

- **Indicator 5: Entry ratio to higher education**
- **Indicator 6: Migration of new high school graduates entering higher education**

A student's state of original residence is that state in which he or she resided when first admitted to an institution in any state.

In-migration, *out-migration*, and *net migration* counts include students coming to U.S. colleges from foreign countries and U.S. outlying areas.

Data for U.S. Service Schools are included in state totals.

Students are reported in "state unknown" when an institution is unable to determine the student's home state.

Due to the presence of several large, private universities in the District of Columbia that draw students primarily from outside the District, the entry ratio for the District is particularly large. Many of the enrolled students either live outside the District and are not counted in the entry reference age population, or moved to the District solely for the purpose of attending school.

Note on entry ratios

Entry and *completion* ratios allow comparisons across states by standardizing entry into or completion of higher education to the size of the population at an age typical for starting or finishing 2-year or 4-year higher education. Indicator 5 presents an overall entry ratio for all of higher education. This ratio should not be interpreted as an entry *rate*, i.e. as the percent of students of a particular age who begin a higher education program in a certain year. This ratio compares the number of students entering 2-year and 4-year higher education programs to the number of persons 18 years old, the most typical age for beginning higher education students.

For Indicator 5, the ratio is calculated by dividing the number of students of *any* age entering higher education programs by the population at the *entry reference age* (age 18, the population at the age typical for beginning higher education) and multiplying by 100:

$$\text{entry ratio} = \frac{\text{students of any age entering higher education programs}}{\text{population at entry reference age}} \times 100$$

This ratio thus represents the number of entering students per 100 persons age 18. Even though many students enter higher education at ages other than the entry reference age, the ratio nevertheless allows useful comparisons across states because it places the number of new entrants in relation to the size of a typical cohort of students. Assuming that the sizes of age cohorts across states at the same age are approximately proportionately equal, the comparative properties of a ratio will not be significantly affected if large numbers of students enter 2-year and 4-year institutions at ages other than the entry reference age. It would, however, be significantly affected if large numbers of students *re-enter* higher education institutions for second degrees (entrants to graduate programs are not included).

Note on

• Indicator 7: Average tuition at higher education institutions

Data are from the entire academic year and are average charges. Average tuition across higher education institutions was weighted by full-time undergraduate enrollment for the academic year, but was not adjusted to reflect student residency.

U.S. Service Schools are excluded.

Note on

• Indicator 8: Reading achievement in the fourth grade

Description of Levels of Reading Proficiency

Fourth-grade students who performed between approximately the 20th and 30th percentiles (scale range 187–200) demonstrated that they could comprehend at least surface meaning in stories and in story-like informative passages. The students within this scale range had the most success with realistic fictions about familiar topics and informative articles about animals. The students were able to identify character traits and could recognize the central problem facing a character. In response to informative articles, they could locate specific facts and make a comparison. With both types of texts, their understanding was mostly of explicitly stated ideas and information.

Fourth graders between approximately the 45th and 55th percentiles (scale range 214–224) could comprehend a variety of texts. They worked equally well with realistic fiction and fable, and were beginning to demonstrate competence with expository material. These students were able to connect some ideas across texts to make generalizations about character traits not explicitly stated in the narrative or to make a simple inference from information. They could describe the motivation of a character in a story and the feelings of an historical figure from an informative account. Most of the students within this range were able to support their interpretations and personal responses with a single text-based example.

Fourth-grade students within approximately the 85th to 95th percentiles (scale range 253–272) were able to comprehend a wider range of materials that used more difficult vocabulary. In addition to realistic fiction and fable, these students could respond to a culturally diverse folktale and an historical narrative composed of many episodes. These students were able to identify character motivation and perspective implicit in the narratives and to identify cause-effect relationships in plot and character development. Students in this percentile range were able to make connective inferences in order to determine causal relations in an historical narrative. They could recognize a device such as specific details used by an author to convey information.

Notes on

• Indicator 9: Mathematics achievement in the eighth grade
• Indicator 10: Mathematics achievement in fourth grade and between fourth and eighth grade

Description of Levels of Mathematics Proficiency

Level 350: Multi-Step Problem Solving and Algebra -- Students at or above this level can apply a range of reasoning skills to solve multi-step problems. They can solve routine problems involving fractions and percents, recognize properties of basic geometric figures, and work with exponents and square roots. They can solve a variety of two-step problems using variables, identify equivalent algebraic expressions, and solve linear equations and inequalities. They are developing an understanding of functions and coordinate systems.

Level 300: Moderately Complex Procedures and Reasoning -- Students at or above this level are developing an understanding of number systems. They can compute with decimals, simple fractions, and commonly encountered percents. They can identify geometric figures, measure lengths and angles, and calculate areas of rectangles. These students are also able to interpret simple inequalities, evaluate formulas, and solve simple linear equations. They can find averages, make decisions on information drawn from graphs, and use logical reasoning to solve problems. They are developing the skills to operate with signed numbers, exponents, and square roots.

Level 250: Numerical Operations and Beginning Problem Solving -- Students at or above this level have an initial understanding of the four basic operations. They are able to apply whole number addition and subtraction skills to one-step word problems and money situations. In multiplication, they can find the product of a two-digit and a one-digit number. They can also compare information from graphs and charts, and are developing an ability to analyze simple logical relations.

Level 200: Beginning Skills and Understandings -- Students at or above this level have considerable understanding of two-digit numbers. They can add two-digit numbers, but are still developing an ability to regroup in subtraction. They know some basic multiplication and division facts, recognize relations among coins, can read information from charts and graphs, and use simple measurement instruments. They are developing some reasoning skills.

Level 150: Simple Arithmetic Facts -- Students at or above this level know some basic addition and subtraction facts, and most can add two-digit numbers without regrouping. They recognize simple situations in which addition and subtraction apply. They also are developing rudimentary classification skills.

Notes on

- **Indicator 12: Educational attainment of the population**
- **Indicator 14: Labor force participation**
- **Indicator 15: Employment and education**
- **Indicator 16: Education and earnings**

Note on the response format of educational attainment questions in the March Current Population Survey

The educational attainment question used in the Current Population Survey (CPS) through 1991 was virtually unchanged since the 1940s. The first part asked, "What is the highest grade or year of regular school ...has ever attended?" This was followed with the question, "Did ...complete the grade?" Response codes ranged from 00 to 26, where the series 21 through 26 was used to represent college grades. Persons having attended more than 6 years of college were coded as '26'. The two-part question allowed the respondent to indicate a grade that was attended but not completed. This would include many persons who were currently enrolled in that grade.

The new item introduced in January 1992 made several changes to the old item. A single question now asked: "What is the highest level of school ...has completed or the highest degree ...has received?" Response categories range from 31 to 46, an intentional change to prevent field staff from attempting to code the old years of schooling answers to the new question. In the new item, response categories for lower levels of schooling have been collapsed into several summary categories. In addition, a new category, "12th grade, No Diploma", has been added.

The major change in the question occurs in the categories for high school completion and beyond. Beginning with the response, "High School Graduate - high school diploma or the equivalent (for example GED)", the categories identify specific degree completion levels, rather than years of schooling. This modification is the fundamental change in the question. The focus of these questions remains "regular" schooling, that is, schooling which is a part of the collegiate system. No attempt has been made to incorporate postsecondary educational attainment from institutions other than the regular college system. Five different levels of degree attainment are identified - Associate, Bachelor's, Masters, Professional and Doctorate degrees. Associate degrees are further distinguished between those awarded in academic programs and those given in an occupational or vocational program. A residual category of "some college but no degree" is used to identify those who have not completed a degree program.

Note on

● Indicator 13: Higher education completion

Due to the presence of several large, private universities in the District of Columbia that draw students primarily from outside the District, the completion ratio for the District is particularly large. Many of the graduating students either live outside the District and are not counted in the graduation reference age population, or moved to the District solely for the purpose of attending school.

U.S. Service Schools are excluded.

Note on completion ratios

Entry and *completion* ratios allow comparisons across states by standardizing entry into or completion of higher education to the size of the population at an age typical for starting or finishing 2-year or 4-year higher education. Indicator 13 presents an overall completion ratio for all of *undergraduate* higher education. This ratio should not be interpreted as a completion *rate*, i.e. as the percent of students of a particular age who complete the requirements of higher education programs in a certain year. This ratio compares the number of students completing 2-year or 4-year higher education programs to the number of persons 20 or 22 years old, the most typical (modal, not mean) ages for completing 2-year and 4-year higher education programs.

For Indicator 13, the ratio is calculated by dividing the number of students of *any* age completing higher education programs by the population at the *graduation reference age* (ages 20 and 22, the ages typical for completing undergraduate higher education programs) and multiplying by 100:

$$\text{completion ratio} = \frac{\text{students of any age completing higher education programs}}{\text{population at graduation reference age}} \times 100$$

This ratio thus represents the number of graduating students per 100 persons age 20 or age 22. Even though many students complete their higher education at ages other than the graduation reference age, the ratio nevertheless allows useful comparisons across states because it places the number of new graduates in relation to the size of a typical cohort of students. Assuming that the sizes of age cohorts across states at the same age are approximately proportionately equal, the comparative properties of a ratio will not be significantly affected if large numbers of students graduate at ages other than the graduation reference ages. It would, however, be significantly affected if large numbers of students *re-enter* higher education institutions for second degrees (degrees from graduate programs are not included).

Note on
- **Indicator 17: Elementary and secondary school size**

Data include students enrolled in public schools on federal bases and other special arrangements.

Includes special education, alternative, and other schools not classified by grade span.

Elementary schools' kindergarten and pre-kindergarten programs are included.

Note on
- **Indicator 18: Number and average size of higher education institutions**

U.S. Service Schools excluded.

Notes on
- **Indicator 19: Enrollment in 2-year higher education institutions**
- **Indicator 20: Enrollment in 4-year higher education institutions**

Non-resident aliens were not counted in any enrollments.

U.S. Service Schools excluded.

Note on Simpson's Paradox (a.k.a. data heterogeneity)[1]

Simpson's Paradox was first noticed by demographers in the last century. The crude death rate of country A could be found to be less than that in country B even if every age-specific death rate of country A was greater than each corresponding one of country B. What holds for death rates holds for other demographic rates, such as educational attainment or enrollment. The paradox arises because the stratification of two populations, that is, the division of each population into apparently more homogenous subgroups for purposes of comparison, may have two effects. Stratification may reverse the apparent rank ordering of the probabilities that determine enrollment in the two populations. This phenomenon has been known for at least 50 years and is familiar to most statisticians. Yule (1903) pointed out that if two attributes are not associated in each of two strata, then pooling the strata can sometimes produce a coincidental association of the attributes in the aggregate. He did not discuss the possibility of apparently reversing the direction of that association by pooling strata.

Intuitively, it might appear that if the overall enrollment rate of state A is less than that of state B, then there must exist at least one age group such that its age-specific enrollment rate in state A is less than its corresponding rate in state B. This intuition is false. The intuition is false because a crude enrollment rate is a weighted average of age-specific rates, where the weights reflect the age structures (or proportions of people in each age group) of each state.

There are many instances of Simpson's Paradox in Figures 19b, 19c, 20b, and 20c. In Figures 19b and 20b, states are sorted from high to low according to the percentage of the 18- to 49-year-old population enrolled in 2-year or 4-year higher education institutions. But the figures display enrollment percentages of *subgroups* of the 18- to 49-year-old population — ages 18–21, 22–29, and 30–49. Figures 19c and 20c show enrollment percentages in each of these age subgroups. A careful reader can find examples of cases where one state is ranked higher than another, based on the percentage of the 18- to 49-year-old population enrolled, even though the other state has higher percentages enrolled in each of the three subgroups.

In Figures 19c and 20c, states are sorted from high to low according to the percentage of 18- to 49-year-old enrolled students in 2-year or 4-year higher education institutions who are female. But the figures display enrollment percentages of two subgroups of the 18- to 49-year-old student population — full-time and part-time students. Here, too, a careful reader can find examples of cases where one state is ranked higher than another, based on the percentage female of the 18- to 49-year-old student population, even though the other state has higher female percentages in both the full-time and part-time subgroups.

An instructive example is provided by the states of Nevada and Idaho in Figure 19c. Nevada is placed higher than Idaho because the female proportion of its 18- to 49-year-old 2-year higher education enrollment was larger (by 58.5 percent to 58.4 percent). But, in each of the subgroups — full-time and part-time enrollment — Idaho clearly ranked higher: 56.1 to 54.0 percent in full-time enrollment; and 67.7 to 59.2 percent in part-time enrollment.

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[1] The primary background source for this section was: Cohen, Joel E. "An Uncertainty Principle in Demography and the Unisex Issue," in *The American Statistician*, February 1986, V.40, N.1, pp. 32–39.

Further investigation reveals that the relationship between full-time and part-time enrollment differs dramatically between the two states. In Nevada, the vast majority — about 86 percent (23,000 students out of 27,000) — of 2-year higher education students attended *part-time*. In Idaho, the vast majority — about 80 percent (11,000 out of 13,500) — attended *full-time*.

Figure 19c compares the percentage female in Nevada to that in Idaho among full-time students and then among part-time students. In each group, Idaho ranks higher. To understand how Nevada, nonetheless, ranks higher overall, it is instructive to compare the two states based on their percent female enrollment in the respective subgroups in which the large majority of their students can be found. This means comparing the percent female among Nevada's *part-time* students (59.2 percent) to the percent female among Idaho's *full-time* students (56.1 percent). In that comparison, which involves 83 percent of all students enrolled in the two states, Nevada clearly ranks higher.

Note on

- **Indicator 23: Note on special education programs**

The Individuals with Disabilities Education Act, Part B (IDEA-B) child count includes children ages 3–21 from 1976–77 to 1984–85 and ages 3–22+ from 1985–86 to 1991–92. Chapter 1 of the Elementary and Secondary Education Act (state operated programs) child count includes children ages 0–21 from 1988–89 to 1991–92.

Notes on

- **Indicator 24: Student use of technology**
- **Indicator 25: Instructional strategies in mathematics**

Three questionnaires were administered in conjunction with the National Assessment of Educational Progress (NAEP) — to administrators of participating schools, to teachers in participating classrooms, and to students sitting for the mathematics exam. Indicators here draw from results of the student and teacher questionnaires. For these indicators, teachers answered the question about ability grouping; students answered all the others.

Note on

- **Indicator 27: Note on staffing patterns in public elementary and secondary schools**

U.S. totals include imputations for under reporting and nonreporting states.

Notes on

- **Indicator 28: Staff employed at public 2-year higher education institutions**
- **Indicator 29: Staff employed at public 4-year higher education institutions**

Data include imputations for nonrespondent institutions.

U.S. Service Schools excluded.

Note on

- **Indicator 30: Higher education faculty salaries**

The total salary outlay for faculty on 9/10 month appointments is divided by the total number of faculty on 9/10 month appointments.

Data include imputations for nonrespondent institutions.

U.S. Service Schools excluded.

Note on

- **Indicator 31: Current expenditure in public elementary and secondary schools**

This indicator includes only current education expenditure in public schools. *Current* expenditure is used for educational goods and services whose life span should not in principle exceed the current year (salaries of personnel, school books and other teaching materials, scholarships, minor repairs and maintenance to school buildings, administration, etc.). Current expenditure excludes both capital expenditure (construction of buildings, major repairs, major items of equipment, vehicles) and the servicing of debt.

U.S. Service Schools excluded.

Notes on
- **Indicator 32:** **Higher education expenditures**
- **Indicator 33:** **Components of expenditures in public higher education**

Due to the presence in the District of Columbia workforce of many who reside in the suburbs outside the District, the gross product of the District is abnormally large relative to its residential population. It is the size of its residential population, however, that more directly determines its educational expenditure.

U.S. Service Schools excluded.

STATISTICAL APPENDIX

STATISTICAL APPENDIX

Note on standard errors

The information presented in this report was obtained from several sources, including federal, national, and private research organizations. Moreover, the data were collected using several research methods, including surveys of a universe (such as all colleges) or of a sample, compilations of administrative records, and statistical imputations. Readers should take particular care when comparing data from different sources. Differences in procedures, timing, phrasing of questions, and interviewer training mean that the results from the different sources may not be strictly comparable. In the Sources of Data section, descriptions of the information sources and data collection methods are presented, grouped by sponsoring organization. More extensive documentation of a particular survey's procedures does not imply more problems with the data, only that more information is available.

Many of the data in this report emanate from universe surveys. Higher education enrollment and finance figures from the Integrated Postsecondary Education Data System, for example, come from surveys that cover virtually all collegiate institutions in the United States. Likewise, public elementary and secondary school enrollment and finance figures from the Common Core of Data come from surveys that cover virtually all public schools in the United States.

Two of the most important sources of data for this report, however, provide estimates based on large samples. Data from the March 1994 ***Current Population Survey*** (CPS), conducted by the U.S. Bureau of the Census, are gathered through interviews from a sample of 60,000 housing units in about 730 geographic "sample areas" throughout the United States that include 1,973 counties, independent cities, and minor civil divisions. A "March Supplement" of the CPS includes an additional 2,500 eligible housing units, interviewed the previous November, that contain at least one person of Hispanic origin. These CPS data form the four indicators of educational attainment (educational attainment, attainment and earnings, attainment and employment, and labor force participation by level of attainment).

Data from the ***National Assessment of Educational Progress*** are derived from samples of students (actually, 4th-grade or 8th-grade public school classrooms), their teachers, and their school administrators at participating schools. The results of the 1990, 1992, and 1994 Trial State Assessment Program are based on state-level samples of fourth-grade and eighth-grade public school students. The samples were selected based on a two-stage sample design—selection of schools within participating states and selection of students within schools. The first-stage samples of schools were selected with probability proportional to the fourth-grade (or eighth-grade) enrollment in the schools. Special procedures were used for states with many small schools and for jurisdictions having a small number of schools. As with the national samples, the state samples were weighted to allow for valid inferences back to the populations of interest.

Unless otherwise noted, all statements based on sample surveys cited in the text were tested for statistical significance and are statistically significant at the .05 level. Several test procedures were used. Which procedure was used depended upon the type of data being interpreted and the nature of the statement being tested. The most commonly used procedure was multiple *t*-tests with a Bonferroni adjustment to the significance level. When multiple comparisons between more than two groups were made, even if only one comparison is cited in the text, a Bonferroni adjustment to the significance level was made to ensure the significance level for the tests as a group was at the .05 level. This commonly arises when making comparisons between U.S. states.

Accuracy of data

The accuracy of any statistic is determined by the joint effects of *sampling* and *nonsampling* errors. Estimates based on a sample will differ somewhat from the figures that would have been obtained if a complete census had been taken using the same survey instruments, instructions, and procedures. In addition to such sampling errors, all surveys, both universe and sample, are subject to design, reporting, and processing errors and errors due to nonresponse. To the extent possible, these nonsampling errors are kept to a minimum by methods built into the survey procedures. In general, however, the effects of nonsampling errors are more difficult to gauge than those produced by sampling variability.

Sampling errors

The samples used in surveys are selected from a large number of possible samples of the same size that could have been selected using the same sample design. Estimates derived from the different samples would differ from each other. The difference between a sample estimate and the average of all possible samples is called the sampling deviation. The standard or sampling error of a survey estimate is a measure of the variation among the estimates from all possible samples and, thus, is a measure of the precision with which an estimate from a particular sample approximates the average result of all possible samples.

The sample estimate and an estimate of its standard error permit us to construct interval estimates with prescribed confidences that the interval includes the average result of all possible samples. If all possible samples were selected under essentially the same conditions and an estimate and its estimated standard error were calculated from each sample, then: 1) approximately 2/3 of the intervals from one standard error below the estimate to one standard error above the estimate would include the average value of all possible samples; and 2) approximately 19/20 of the intervals from two standard errors below the estimate to two standard errors above the estimate would include the average value of all possible samples. We call an interval from two standard errors below the estimate to two standard errors above the estimate a 95 percent confidence interval.

The estimated standard errors for two sample statistics can be used to estimate the precision of the difference between the two statistics and to avoid concluding that there is an actual difference when the difference in sample estimates may only be due to sampling error. The need to be aware of the precision of differences arises, for example, when comparing mean proficiency scores between states in the National Assessment of Educational Progress. The standard error, s_{A-B}, of the difference between sample estimate A and sample estimate B (when A and B are independent) is:

$$s_{a+b} = \sqrt{s_a^2 + s_b^2}$$

where s_A and s_B are the standard error of sample estimates A and B, respectively. When the ratio (called a t-statistic) of the difference between the two sample statistics and the standard error of the difference as calculated above is less than 2, one cannot be sure the difference is not due only to sampling error and caution should be taken in drawing any conclusions. In this report, for example, we would not conclude there is a difference based on this single comparison.

In this report, a 5 percent significance level is used to test the assumption that two estimates are different from one another. With hypothesis tests that make no presumptions about the *direction* of the difference, the test is whether it can be said with confidence that sample estimate A does not equal sample estimate B. This test is called a "two-tailed" test of significance because the difference could be found significant whether A is significantly greater than B or A is significantly less than B. A two-tailed test of significance is applied to most of the hypothesis tests for the indicators based on the National Assessment of Educational Progress (NAEP).

A hypothesis test containing the presumption of a specific direction in the relationship between two estimates is commonly called a "one-tailed" test and tests whether two estimates can be said to differ in the specified direction. One-tailed tests are applied in this report to comparisons made between estimates derived from samples of persons with two different levels of educational attainment as collected in the Current Population Survey (CPS). It is presumed in these comparisons that a higher level of educational attainment would, under normal circumstances, increase (and not decrease) one's earnings, employment prospects, or labor force participation. Given that higher levels of educational attainment require effort, time, and, at the higher levels, money for tuition and fees, people are not likely to invest in them unless they perceive there to be some discernable payoff, such as an improved position in the labor market. The one-tailed hypothesis test, then, attempts to see if an estimate of an outcome measure such as average annual earnings, employment rate, or labor force participation rate, is higher or not higher in samples of persons with higher levels of educational attainment.

To illustrate the process of hypothesis testing further, consider the data on reading proficiency scores for fourth-grade students in public schools in Figure 8b, Table 8b, and the associated standard error Table 8bx. The estimated average reading proficiency score for fourth-graders in New Hampshire based on the sample was 228 in 1992 and 223 in 1994. Is there enough evidence to conclude that this difference is not due to sampling error and that the actual average reading proficiency of fourth-graders in New Hampshire is different in 1994 than in 1992? The standard errors for these two estimates are 1.2 and 1.5, respectively. Using the above formula, the standard error of the difference is calculated as 1.92. The ratio of the estimated difference in proficiency scores of 5 to the standard error of the difference of 1.92 is 2.60. Using the table below, it can be seen that the critical value for a 2-tailed test making 1 comparison is 1.96. Our calculated value for the difference in reading proficiency of New Hampshire fourth-graders between 1992 and 1994 is 2.60, which exceeds the critical value. We may, therefore, conclude with confidence that the two reading proficiency scores are different and the difference is not simply due to sampling error.

Number of comparisons	1	2	3	4	5	10	20	40	50
Critical value (1-tailed)	1.65	1.96	2.13	2.24	2.33	2.58	2.81	3.02	3.09
Critical value (2-tailed)	1.96	2.24	2.39	2.50	2.58	2.81	3.02	3.23	3.29

When examining a large table, however, most readers draw conclusions after making multiple comparisons within the table. In these circumstances, the chance that one of the many differences examined is a result of sampling error increases (accumulates) as the number of comparisons increases. One procedure to ensure that the likelihood of any of the comparisons being a result of sampling error stays less than 5 percent is to reduce this risk for each of the comparisons being made. If N comparisons are being made, then divide 5 percent by N and ensure that the risk of a difference being due only to sampling error is less than 5/N for each comparison. The table above provides critical values for the *t*-statistic for each comparison when it is a part of N possible comparisons.

For example, a reader might examine Table 8b for the purpose of comparing the 1992 and 1994 average reading proficiency scores, not for New Hampshire's fourth-graders alone, but for those of all states. Making 37 comparisons (for the 37 states that participated), the reader would select a critical value for a 2-tailed test of about 3.23 (for 40 comparisons). The calculated value for New Hampshire for the difference in reading proficiency between 1992 and 1994 of 2.60 does not exceed this critical value. Based on a *multiple comparison*, then, the reader may conclude that the difference in proficiency scores for New Hampshire's fourth-graders may simply be due to sampling error.

It should be noted that most of the standard error estimates presented in subsequent sections and in the original documents are approximations. That is, to derive estimates of standard errors that would be applicable to a wide variety of items and could be prepared at a moderate cost, a number of approximations were required. As a result, the standard error estimates provide a general order of magnitude rather than the exact standard error for any specific item.

Nonsampling errors

Both universe and sample surveys are subject to nonsampling errors. Nonsampling errors may arise when respondents or interviewers interpret questions differently, when respondents must estimate values, when coders, keyers, and other processors handle answers differently, when persons who should be included in the universe are not, or when persons fail to respond (completely or partially). Nonsampling errors usually, but not always, result in an understatement of total survey error and thus an overstatement of the precision of survey estimates. Since estimating the magnitude of nonsampling errors often would require special experiments or access to independent data, these nonsampling errors are seldom available.

Note on standard errors of estimates from the *National Assessment of Educational Progress* (Indicators 8, 9, 10, 24, 25)

Standard errors used here for these data sources are, in most cases, copied directly from their own publications. In one case, however, for the percent of students who take a math test at least once per week (Indicator 25), more than one category of response from a multiple response question have been combined. To approximate the standard error for these figures, the design effect was obtained for each percentage included in the summation. The design effect was approximated for the combined percentage (represented in Table 25x) as the average of these component design effects. The standard errors presented represent the standard error that would result from a simple random sample, inflated by the square root of the average design effect of the component percentages.

In carrying out the 1996 and 1994 Trial State Assessments, the National Center for Education Statistics established participation rate standards that jurisdictions were required to meet in order for their results to be reported. Additional standards were also established that required the annotation of published results for jurisdictions whose sample participation rates were low enough to raise concerns about their representativeness. Three states, Nevada, New Hampshire, and New Jersey, failed to meet the initial school participation rate of 70 percent in 1996 at the eighth-grade level. For these three states, results for the eighth-grade public school students are not reported in this or any report of 1996 findings. Two states, Idaho and Michigan, failed to meet the initial school participation rate of 70 percent in 1994. For these two states, results for the fourth-grade public school students are not reported in this or any report of 1994 findings. Several other jurisdictions for which results are published are flagged to note the potential for nonresponse bias associated with school-level non-response.

NCES standards specify weighted school participation rates of at least 85 percent to guard against potential bias due to school non-response. In 1994, six states (Nebraska, New Hampshire, Pennsylvania, Rhode Island, Tennessee, and Wisconsin) failed to meet the following NCES guideline: A jurisdiction will receive a notation if its weighted participation rate for the initial sample of public schools was below 85 percent and the weighted public school participation rate after substitution was below 90 percent. For jurisdictions that did not use substitute schools, the participation rates were based on participating schools from the original sample.

In 1996, ten states (Arkansas, Iowa, Michigan, Montana, Nevada, New Jersey, New York, Pennsylvania, South Carolina, and Vermont) failed to meet these guidelines at the fourth-grade level. Nine states (Arkansas, Iowa, Maryland, Michigan, Montana, New York, South Carolina, Vermont, and Wisconsin) failed to meet the guidelines at the eighth-grade level.

Table 8ax: Standard errors for Table 8a

State	Average proficiency	Percentile score				
		10th	25th	50th	75th	90th
UNITED STATES	**1.1**	**2.1**	**1.5**	**1.2**	**1.2**	**1.5**
Alabama	1.5	2.8	1.8	2.3	2.3	1.8
Arizona	1.9	2.5	2.7	2.1	1.8	2.0
Arkansas	1.7	2.8	2.8	1.9	1.2	1.6
California	1.8	2.7	3.4	2.2	1.5	1.5
Colorado	1.3	3.2	1.5	1.4	1.5	1.3
Connecticut	1.6	4.2	2.6	1.3	1.6	1.5
Delaware	1.1	3.0	2.0	1.4	0.9	1.2
Florida	1.7	2.2	2.0	1.6	2.1	2.0
Georgia	2.4	3.9	2.6	3.1	2.0	2.3
Hawaii	1.7	3.4	2.0	2.1	1.6	1.5
Indiana	1.3	1.5	1.9	1.4	1.8	1.5
Iowa	1.3	2.7	1.6	1.7	1.7	2.2
Kentucky	1.6	3.2	1.9	1.4	1.9	2.2
Louisiana	1.3	2.8	1.9	1.8	1.6	2.6
Maine	1.3	2.2	1.7	1.1	1.4	1.4
Maryland	1.5	1.8	1.8	1.9	1.3	1.5
Massachusetts	1.3	2.3	3.0	1.6	1.6	2.1
Minnesota	1.4	3.1	1.2	1.3	1.3	1.1
Mississippi	1.6	3.5	2.3	1.8	2.3	1.7
Missouri	1.5	2.5	2.3	1.9	1.0	1.8
Montana	1.4	3.3	1.9	1.4	1.0	1.1
Nebraska	1.5	1.6	1.9	1.8	1.9	1.3
New Hampshire	1.5	3.0	1.5	1.5	1.5	1.3
New Jersey	1.2	2.2	1.6	1.0	1.4	1.9
New Mexico	1.7	4.3	2.5	1.6	1.0	2.6
New York	1.4	4.2	1.9	1.3	1.8	2.0
North Carolina	1.5	2.2	1.9	1.5	1.3	1.7
North Dakota	1.2	1.7	1.4	1.1	1.2	1.6
Pennsylvania	1.6	3.4	1.8	2.1	1.6	2.1
Rhode Island	1.3	1.8	1.6	1.4	2.5	2.8
South Carolina	1.4	1.8	1.9	1.5	1.2	1.4
Tennessee	1.7	5.0	2.4	2.0	1.3	2.3
Texas	1.9	2.7	3.5	2.3	1.8	1.7
Utah	1.3	1.9	1.4	1.0	1.3	1.5
Virginia	1.5	3.6	2.0	2.0	2.8	2.2
Washington	1.5	2.7	1.8	1.3	1.2	2.3
West Virginia	1.1	2.0	1.2	1.0	1.5	1.4
Wisconsin	1.1	2.0	1.4	1.4	1.7	1.3
Wyoming	1.2	2.0	2.1	1.6	1.2	1.5

NOTE: The states of Alaska, Illinois, Kansas, Nevada, Ohio, Oklahoma, Oregon, South Dekota and Vermont did not participate in the 1994 NAEP Trial State Assessment, the source for these data. Idaho and Michigan did not meet minimum school participation guidelines. Reading Proficiency Scale has a range betwen 0 and 500.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Cross-State Data Compendium for the NAEP 1994 Grade 4 Reading Assessment*, Table 1.

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Table 8bx: Standard errors for Table 8b

State	Average proficiency	Percentile score 10th	25th	50th	75th	90th	Difference between 1992 and 1994 4th grade average proficiency
UNITED STATES	**1.0**	**1.9**	**1.0**	**1.7**	**1.3**	**2.3**	**1.5**
Alabama	1.7	1.8	2.5	1.5	1.8	1.2	2.3
Arizona	1.2	2.0	2.0	1.4	1.1	1.5	2.2
Arkansas	1.2	2.0	1.4	1.5	1.1	1.6	2.1
California	2.0	3.1	2.8	2.1	2.4	2.6	2.7
Colorado	1.1	2.1	1.6	1.2	1.3	1.0	1.7
Connecticut	1.3	3.0	2.4	1.2	1.2	1.7	2.1
Delaware	0.6	2.2	1.2	1.2	1.0	1.4	1.3
Florida	1.2	3.5	1.6	1.4	1.3	1.6	2.1
Georgia	1.5	2.1	2.3	1.5	1.7	2.1	2.8
Hawaii	1.7	1.7	2.5	1.3	1.9	1.8	2.4
Indiana	1.3	2.4	1.7	1.2	1.1	1.5	1.8
Iowa	1.1	1.6	1.2	0.9	1.3	1.1	1.7
Kentucky	1.3	3.2	2.0	1.4	1.7	1.5	2.1
Louisiana	1.2	2.5	2.2	1.2	1.3	1.5	1.6
Maine	1.1	2.1	1.1	1.1	1.1	1.9	1.7
Maryland	1.6	2.8	2.7	1.4	1.4	1.3	2.2
Massachusetts	0.9	1.7	1.6	1.3	0.9	2.2	1.6
Minnesota	1.2	2.0	1.4	1.6	0.8	1.0	1.8
Mississippi	1.3	2.1	1.6	1.6	1.6	1.5	2.1
Missouri	1.2	1.9	1.3	1.7	1.7	1.2	1.9
Nebraska	1.1	1.7	1.6	1.1	1.5	1.0	1.9
New Hampshire	1.2	1.9	2.1	1.3	1.2	1.9	1.9
New Jersey	1.4	3.1	1.7	1.7	1.6	1.7	1.8
New Mexico	1.5	2.8	1.4	1.3	2.2	2.1	2.3
New York	1.4	2.5	2.4	1.3	1.1	1.5	2.0
North Carolina	1.1	2.1	1.2	1.4	1.6	2.1	1.9
North Dakota	1.1	2.7	2.0	1.6	1.3	2.0	1.6
Pennsylvania	1.3	2.2	1.4	1.7	1.7	1.3	2.1
Rhode Island	1.8	3.9	4.0	1.8	1.7	1.6	2.2
South Carolina	1.3	1.8	1.7	1.5	1.3	2.0	1.9
Tennessee	1.4	1.3	1.9	1.4	1.9	1.5	2.2
Texas	1.6	2.5	1.8	1.7	2.2	2.0	2.5
Utah	1.1	2.2	1.7	1.2	0.9	1.2	1.7
Virginia	1.4	2.6	1.8	1.6	1.3	1.9	2.1
West Virginia	1.3	2.2	1.7	1.5	1.3	1.6	1.7
Wisconsin	1.0	2.0	1.2	1.1	0.8	0.9	1.5
Wyoming	1.1	2.5	1.5	1.0	1.5	0.9	1.6

NOTE: The states of Alaska, Illinois, Kansas, Montana, Nevada, Ohio, Oklahoma, Oregon, South Dakota, Vermont, and Washington did not participate in the 1992 and/or 1994 NAEP Trial State Assessments, the sources for these data. Idaho and Michigan did not meet minimum school participation guidelines in 1994. Reading Proficiency Scale has a range between 0 and 500.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Cross-State Data Compendium for the NAEP 1994 Grade 4 Reading Assessment*, Table 1.

Table 8cx: Standard errors for Table 8c

State	Reading for literary experience	Reading to gain information
UNITED STATES	**1.2**	**1.2**
Alabama	1.4	1.9
Arizona	1.8	2.1
Arkansas	1.8	2.1
California	1.8	2.3
Colorado	1.3	1.5
Connecticut	1.7	2.0
Delaware	1.4	1.1
Florida	2.0	1.8
Georgia	2.4	2.5
Hawaii	1.7	1.9
Indiana	1.5	1.5
Iowa	1.4	1.5
Kentucky	1.6	1.8
Louisiana	1.5	1.5
Maine	1.4	1.5
Maryland	1.5	1.8
Massachusetts	1.4	1.5
Minnesota	1.5	1.6
Mississippi	1.9	1.7
Missouri	1.5	1.7
Montana	1.6	1.4
Nebraska	1.6	1.5
New Hampshire	1.6	1.9
New Jersey	1.4	1.5
New Mexico	1.8	1.9
New York	1.6	1.6
North Carolina	1.6	1.6
North Dakota	1.5	1.4
Pennsylvania	1.6	1.8
Rhode Island	1.4	1.7
South Carolina	1.5	1.5
Tennessee	1.7	2.0
Texas	2.1	1.9
Utah	1.4	1.6
Virginia	1.6	1.6
Washington	1.5	1.7
West Virginia	1.1	1.3
Wisconsin	1.3	1.4
Wyoming	1.2	1.4

NOTE: The states of Alaska, Illinois, Kansas, Nevada, Ohio, Oklahoma, Oregon, South Dakota, and Vermont did participate in the 1994 NAEP Trial State Assessment, the source for these data. Idaho and Michigan did not meet minimum school participation guidelines. Reading Proficiency Scale has a range between 0 and 500.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Cross-State Data Compendium for the NAEP 1994 Grade 4 Reading Assessment*, Table 2.

Table 9ax: Standard errors for Table 9a

State	Average proficiency	Percentile score				
		10th	25th	50th	75th	90th
UNITED STATES	**1.2**	**2.0**	**1.2**	**1.1**	**1.4**	**2.0**
Alabama	2.1	1.9	2.4	2.4	2.2	3.7
Alaska*	1.8	3.9	3.2	1.2	2.1	4.1
Arizona	1.6	3.4	1.4	3.0	1.3	2.1
Arkansas*	1.5	3.8	1.8	1.3	1.2	1.5
California	1.9	2.6	2.3	2.0	1.5	2.7
Colorado	1.1	2.9	1.3	1.3	1.4	1.3
Connecticut	1.1	2.2	1.2	1.7	1.6	1.7
Delaware	0.9	1.6	1.8	1.3	1.8	1.3
District of Columbia	1.3	2.3	1.6	1.5	2.0	2.1
Florida	1.8	3.0	2.0	1.9	1.7	1.9
Georgia	1.6	1.7	3.1	1.8	1.5	1.7
Hawaii	1.0	2.0	1.0	1.2	1.6	2.2
Indiana	1.4	2.4	2.1	1.4	1.3	1.3
Iowa*	1.3	1.6	1.1	1.1	1.4	2.0
Kentucky	1.1	1.3	1.4	1.3	1.6	2.0
Louisiana	1.6	2.2	1.8	2.1	1.5	2.3
Maine	1.3	1.7	1.2	1.6	1.5	1.6
Maryland*	2.1	1.9	2.1	2.2	4.0	2.7
Massachusetts	1.7	3.1	2.5	1.6	1.4	1.7
Michigan*	1.8	2.5	2.2	2.1	1.2	2.0
Minnesota	1.3	2.8	1.6	2.4	1.3	1.3
Mississippi	1.2	1.1	1.5	1.3	1.7	2.2
Missouri	1.4	2.8	1.9	1.9	1.7	1.5
Montana*	1.3	2.7	1.5	1.7	0.8	1.8
Nebraska	1.0	1.4	1.4	1.0	1.4	1.5
New Mexico	1.2	2.2	1.6	1.2	1.7	1.3
New York*	1.7	4.2	2.7	1.9	1.3	2.8
North Carolina	1.4	2.6	1.4	1.6	1.1	1.7
North Dakota	0.9	2.2	1.1	0.9	1.3	1.5
Oregon	1.5	1.8	2.1	2.0	1.6	1.3
Rhode Island	0.9	1.9	1.4	1.2	1.1	1.3
South Carolina*	1.5	1.9	1.9	1.2	3.0	2.3
Tennessee	1.4	2.5	1.7	1.2	1.9	2.5
Texas	1.4	2.2	2.0	1.7	1.6	1.6
Utah	1.0	2.6	1.4	1.2	1.2	1.0
Vermont*	1.0	1.7	1.3	1.0	1.3	1.4
Virginia	1.6	2.7	1.1	1.6	1.4	1.4
Washington	1.3	2.1	1.7	1.4	1.1	1.7
West Virginia	1.0	1.5	1.2	1.4	0.9	1.6
Wisconsin*	1.5	3.9	2.1	1.8	1.5	1.8
Wyoming	0.9	1.6	1.1	1.1	0.8	1.0

*State did not satisfy one or more of the guidelines for school participation rates in 1996. Nevada, New Hampshire, and New Jersey did not meet minimum participation guidelines.

NOTE: The states of Idaho, Illinois, Kansas, Ohio, Oklahoma, Pennsylvania, and South Dakota did not participate in the NAEP 1996 Eighth-grade Trial State Assessment, the source for these data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, 1996, unpublished tabulations.

Table 9bx: Standard errors for Table 9b

State	Average proficiency score in 1996	Difference between 1992 and 1996 average proficiency	Difference between 1990 and 1996 average proficiency
UNITED STATES	**1.2**	**1.6**	**1.8**
Alabama	2.1	2.7	2.4
Alaska*	1.8	—	—
Arizona*	1.6	2.0	2.1
Arkansas	1.5	1.9	1.8
California	1.9	2.5	2.3
Colorado	1.1	1.5	1.4
Connecticut	1.1	1.6	1.5
Delaware	0.9	1.4	1.3
District of Columbia	1.3	1.6	1.6
Florida	1.8	2.3	2.2
Georgia	1.6	2.0	2.1
Hawaii	1.0	1.3	1.3
Indiana	1.4	1.8	1.8
Iowa*	1.3	1.7	1.7
Kentucky	1.1	1.5	1.6
Louisiana	1.6	2.3	2.0
Maine	1.3	1.6	—
Maryland	2.1	2.5	2.6
Massachusetts	1.7	2.0	—
Michigan*	1.8	2.3	2.2
Minnesota	1.3	1.7	1.6
Mississippi	1.2	1.7	—
Missouri	1.4	1.8	—
Montana*	1.3	—	1.6
Nebraska	1.0	1.5	1.5
Nevada*	—	—	1.4
New Hampshire*	—	—	—
New Jersey*	—	—	2.2
New Mexico	1.2	1.5	1.5
New York*	1.7	2.7	2.7
North Carolina	1.4	1.8	1.8
North Dakota	0.9	1.5	1.5
Oregon	1.5	—	1.8
Rhode Island	0.9	1.2	1.1
South Carolina*	1.5	1.8	—
Tennessee	1.4	2.0	—
Texas	1.4	1.9	2.0
Utah	1.0	1.3	—
Vermont*	1.0	—	—
Virginia	1.6	1.9	2.2
Washington	1.3	—	—
West Virginia	1.0	1.4	1.4
Wisconsin	1.5	2.1	2.0
Wyoming	0.9	1.2	1.1

— State did not participate in one or more of the assessments.

* State did not satisfy one or more of the guidelines for school participation rates in 1996.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *NAEP 1996 Mathematics Report Card for the Nation and the States: Findings from the National Assessment of Educational Progress*, 1997, Table F.2b.

Table 10ax: Standard errors for Table 10a

State	Average proficiency	Percentile score				
		10th	25th	50th	75th	90th
UNITED STATES	**1.0**	**1.5**	**1.3**	**1.3**	**1.0**	**1.0**
Alabama	1.2	1.6	1.1	1.5	1.4	1.9
Alaska*	1.3	2.4	1.5	1.5	1.1	1.2
Arizona*	1.7	1.4	1.3	2.0	1.8	2.8
Arkansas	1.5	2.0	1.8	1.6	2.0	1.7
California	1.8	2.3	1.3	2.0	2.0	2.4
Colorado	1.0	2.1	1.2	1.5	1.3	1.3
Connecticut	1.1	1.6	1.6	1.2	1.7	1.1
Delaware	0.6	1.9	1.3	1.1	1.2	1.7
District of Columbia	1.1	2.3	1.9	1.7	1.1	1.8
Florida	1.2	2.3	1.6	1.8	1.2	1.2
Georgia	1.5	2.0	1.9	1.4	1.8	1.8
Hawaii	1.5	2.6	1.9	1.3	1.3	1.6
Indiana	1.0	2.0	1.1	1.0	1.4	1.6
Iowa*	1.1	2.4	1.3	1.3	1.5	1.0
Kentucky	1.1	3.1	2.4	1.2	1.0	1.5
Louisiana	1.1	1.5	1.2	1.3	1.3	2.2
Maine	1.0	1.5	1.2	1.2	1.1	1.8
Maryland	1.6	1.8	1.7	1.7	2.0	1.7
Massachusetts	1.3	2.7	1.7	1.4	1.7	1.5
Michigan*	1.3	2.0	1.5	1.6	1.2	1.5
Minnesota	1.1	1.9	2.2	0.9	1.2	1.7
Mississippi	1.2	1.9	1.2	1.3	1.9	1.6
Missouri	1.1	1.8	1.6	1.2	1.5	0.8
Montana*	1.2	1.6	2.2	1.3	1.2	1.4
Nebraska	1.2	2.0	1.7	1.2	1.1	1.1
Nevada*	1.3	2.9	2.5	1.0	1.4	1.3
New Jersey*	1.5	2.8	1.3	1.7	1.6	1.4
New Mexico	1.8	3.6	2.7	2.3	1.4	1.6
New York*	1.2	2.8	2.0	1.2	0.9	1.4
North Carolina	1.2	2.0	1.6	1.0	1.3	1.3
North Dakota	1.2	2.3	1.3	0.7	1.2	1.2
Oregon	1.4	2.2	1.4	1.6	1.5	1.7
Pennsylvania*	1.2	2.6	1.8	1.8	1.3	1.9
Rhode Island	1.4	3.1	1.4	2.0	1.4	1.5
South Carolina*	1.3	0.9	1.9	1.4	2.6	1.5
Tennessee	1.4	2.2	1.8	1.6	1.9	1.1
Texas	1.4	2.8	1.7	1.7	1.1	1.7
Utah	1.2	1.8	1.8	1.2	1.0	2.4
Vermont*	1.2	2.9	1.7	1.0	1.0	2.4
Virginia	1.4	1.4	1.7	1.5	1.2	1.5
Washington	1.2	2.7	1.6	1.4	0.9	1.3
West Virginia	1.0	1.5	0.9	1.1	1.2	0.9
Wisconsin	1.0	1.5	0.7	1.1	0.9	1.8
Wyoming	1.4	3.7	1.8	1.3	1.3	0.8

*State did not satisfy one or more of the guidelines for school participation rates in 1996.

NOTE: The states of Idaho, Illinois, Kansas, New Hampshire, Ohio, Oklahoma, and South Dakota did not participate in the NAEP 1996 Fourth-grade Trial State Assessment, the source for these data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress, 1996, unpublished tabulations.

Table 10bx: Standard errors for Table 10b

State	Average proficiency score in 1996	Difference between 1992 and 1996 average proficiency	Difference between 4th-grade and 8th-grade average proficiency in 1996
UNITED STATES	**1.0**	**1.3**	**1.6**
Alabama	1.2	2.0	2.4
Alaska*	1.3	—	2.2
Arizona*	1.7	2.0	2.3
Arkansas	1.5	1.7	2.1
California	1.8	2.4	2.6
Colorado	1.0	1.4	1.5
Connecticut	1.1	1.6	1.6
Delaware	0.6	1.0	1.1
District of Columbia	1.1	1.2	1.7
Florida	1.2	1.9	2.2
Georgia	1.5	1.9	2.2
Hawaii	1.5	2.0	1.8
Indiana	1.0	1.5	1.7
Iowa*	1.1	1.5	1.7
Kentucky	1.1	1.5	1.6
Louisiana	1.1	1.8	1.9
Maine	1.0	1.4	1.6
Maryland	1.6	2.0	2.6
Massachusetts	1.4	1.8	2.1
Michigan*	1.3	2.1	2.2
Minnesota	1.1	1.4	1.7
Mississippi	1.2	1.6	1.7
Missouri	1.1	1.6	1.8
Montana*	1.2	—	1.8
Nebraska	1.2	1.7	1.6
Nevada*	1.3	—	—
New Jersey*	1.5	2.1	—
New Mexico	1.8	2.3	2.3
New York*	1.2	1.8	1.5
North Carolina	1.2	1.6	1.9
North Dakota	1.2	1.4	1.5
Oregon	1.4	—	2.1
Pennsylvania*	1.2	1.8	—
Rhode Island	1.4	2.1	2.0
South Carolina*	1.3	1.7	1.6
Tennessee	1.4	1.9	1.7
Texas	1.4	1.8	2.1
Utah	1.2	1.5	1.8
Vermont*	1.2	—	1.6
Virginia	1.4	1.9	2.1
Washington	1.2	—	1.5
West Virginia	1.0	1.5	2.0
Wisconsin	1.0	1.4	2.5
Wyoming	1.4	1.7	1.7

— State did not participate in one or more of the assessments. Nevada, New Hampshire, and New Jersey did not meet minimum participation guidelines for the NAEP 1996 Eighth-grade Trial State Assessment.

* State did not satisfy one or more of the guidelines for school participation rates in 1996.

SOURCE: U.S. Department of Education, National Center for Education Statistics, *NAEP 1996 Mathematics Report Card for the Nation and the States: Findings from the National Assessment of Educational Progress*, 1997, Table F.2a; unpublished tabulations.

Table 24x: Standard errors for Table 24

State	Percent who use calculators	Percent who use computers
Alabama	2.4	1.6
Arizona	2.0	1.5
Arkansas	2.0	1.5
California	1.9	1.7
Colorado	1.6	1.3
Connecticut	1.6	1.3
Delaware	0.9	1.1
District of Columbia	1.2	1.1
Florida	1.9	1.3
Georgia	2.0	1.5
Hawaii	1.0	1.0
Idaho	1.6	1.6
Indiana	2.1	1.3
Iowa	2.2	1.8
Kentucky	1.6	1.9
Louisiana	2.2	1.5
Maine	1.7	1.6
Maryland	1.8	1.7
Massachusetts	2.3	1.6
Michigan	2.0	1.6
Minnesota	1.5	1.4
Mississippi	2.1	1.6
Missouri	1.9	1.3
Nebraska	2.1	2.0
New Hampshire	1.7	1.4
New Jersey	2.3	1.5
New Mexico	1.8	1.4
New York	2.1	1.6
North Carolina	1.8	1.4
North Dakota	2.0	1.8
Ohio	2.3	1.5
Oklahoma	2.4	1.8
Pennsylvania	2.3	1.5
Rhode Island	0.9	1.1
South Carolina	1.7	1.6
Tennessee	2.1	1.3
Texas	1.8	1.6
Utah	1.6	1.3
Virginia	1.7	1.5
West Virginia	2.3	1.3
Wisconsin	2.3	2.0
Wyoming	1.9	1.3

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Data Compendium for the NAEP 1992 Mathematics Assessment of the Nation and the States*, Tables 10.15 and 10.23.

Table 25x: Standard errors for Table 25

State	Percent of schools where math classes are based on ability	Percent of students who do group problem-solving at least once per week	Percent of students who take math test at least once per week
Alabama	3.7	2.2	1.1
Arizona	3.7	1.6	1.8
Arkansas	4.0	2.1	1.5
California	3.5	2.2	1.7
Colorado	3.8	2.0	1.7
Connecticut	3.5	1.8	1.7
Delaware	0.5	1.0	1.4
District of Columbia	1.0	1.1	1.1
Florida	2.8	1.9	1.4
Georgia	3.2	2.3	1.3
Hawaii	0.6	1.2	1.1
Idaho	3.5	2.1	1.4
Indiana	3.9	1.6	1.9
Iowa	4.7	2.4	2.0
Kentucky	3.9	2.6	1.3
Louisiana	4.4	2.1	1.1
Maine	4.3	2.2	1.6
Maryland	2.5	2.1	1.3
Massachusetts	2.8	1.7	1.6
Michigan	4.0	2.5	1.7
Minnesota	4.1	2.8	1.6
Mississippi	3.5	1.6	1.1
Missouri	4.0	1.9	1.7
Nebraska	4.5	2.7	1.7
New Hampshire	3.9	1.7	1.5
New Jersey	3.7	2.4	1.8
New Mexico	3.5	1.6	1.5
New York	3.7	1.5	1.6
North Carolina	3.4	2.0	1.5
North Dakota	2.9	2.1	1.8
Ohio	4.2	2.3	1.9
Oklahoma	4.3	1.4	1.8
Pennsylvania	3.5	1.9	1.4
Rhode Island	0.7	1.1	1.3
South Carolina	3.3	1.8	0.9
Tennessee	3.8	1.7	1.4
Texas	3.3	2.4	1.4
Utah	2.4	1.6	1.4
Virginia	3.1	1.6	1.1
West Virginia	3.4	2.0	1.9
Wisconsin	4.9	2.4	1.7
Wyoming	2.9	2.1	1.4

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Data Compendium for the NAEP 1992 Mathematics Assessment of the Nation and the States*, Tables 9.4, 9.16, and 9.33.

Notes on standard errors for Current Population Survey estimates (Indicators 12, 14, 15, 16)

These indicators were prepared using data from the Current Population Survey (CPS) conducted by the Bureau of the Census in March 1994. While the Bureau of the Census conducts the survey on a monthly basis, the March survey was chosen for its supplementary questions relating labor force status and earnings to levels of educational attainment as well as its sampling frame more focused on educational attainment levels. This survey's estimation procedure inflates weighted sample results to independent estimates of the civilian noninstitutional population of the United States by age, sex, race, and Hispanic/non-Hispanic categories. It also includes a further adjustment so that the wife and husband of a household receive the same weight.

Since these estimates are derived from a survey, they are susceptible to the same types of errors (sampling and nonsampling) discussed earlier in this appendix. The standard errors discussed later in this section are primarily measures of sampling error, although they may reflect a portion of the non-sampling error as well. The nonsampling errors in these data can be attributed to a variety of sources, including definitional difficulties, differences in the interpretation of the questions asked, data collection errors in either the collection or the coding of the data, errors made in estimating values for missing data, and failure to represent all units in the sample (undercoverage).

CPS undercoverage is the result of missed housing units and missed persons within sample households which were interviewed. About 60,000 occupied households are included in the sample every month, with roughly 2,500 eligible housing units added to that number in March to obtain more reliable data for the Hispanic origin population. Interviewers are unable to obtain interviews at about 2,600 of these units because the occupants are not home after repeated attempts or are unavailable for some other reason. This undercoverage varies with age, sex, and race. In general, undercoverage is greater for males than for females, and is greater for black and other races combined than for whites. Ratio estimation to independent age-sex-race-Hispanic population controls partially correct the bias attributable to undercoverage. However, biases exist in the estimates to the extent that missed persons in missed households or missed persons in interviewed households have different characteristics from those of interviewed persons in the same age-sex-race-Hispanic group.

All of the CPS based indicators included in this report are estimated percentages, computed using sample data for both numerator and denominator. The reliability of this type of indicator is dependent on the size of the percentage and its base. Estimated percentages are relatively more reliable than the corresponding estimates of the numerators of the percentages, especially when those percentages are 50 percent or greater. The standard errors calculated for this report utilized the following formula:

$$s_{x,p}=\sqrt{\frac{b}{x}*p(100-p)}$$

where x is the total number of persons, families, households, or unrelated individuals in the base of the percentage, p is the percentage ($0 \le p \le 100$), and b is a parameter (or, "design effect") associated with the characteristic in the numerator of the percentage (for all the indicators in this report, b was 2,458, the parameter for educational attainment groups). The design effects are adjusted by a state factor, unique for each state.

All the hypothesis tests performed with the indicators using data from the CPS (Indicators 14, 15, and 16) employ one-tailed tests of significance, as described earlier in this appendix. It is presumed that, if a statistically significant difference in a labor market measure (such as earnings, employment rate, or labor force participation) is to be found, it will show higher levels of educational attainment associated with better labor market prospects. The converse assumption, that higher levels of educational attainment might be associated with worse labor market prospects, is not tested in this report.

Table 12ax: Standard errors for Table 12a

	Male			Female		
State	Less than a high school diploma	High school diploma, but not a 4-year college degree	4-year college degree or greater	Less than a high school diploma	High school diploma, but not a 4-year college degree	4-year college degree or greater
UNITED STATES	**0.2**	**0.3**	**0.3**	**0.2**	**0.3**	**0.3**
Alabama	2.1	2.6	2.0	2.0	2.4	1.8
Alaska	1.2	2.1	2.0	1.0	2.1	2.0
Arizona	1.7	2.4	2.1	1.7	2.4	2.0
Arkansas	2.2	2.6	2.0	2.0	2.4	1.7
California	0.8	1.0	0.9	0.8	1.0	0.8
Colorado	1.3	2.5	2.4	1.2	2.5	2.4
Connecticut	1.9	3.0	2.8	1.6	2.7	2.5
Delaware	1.9	2.7	2.4	1.7	2.5	2.2
District of Columbia	2.2	2.9	2.8	2.3	2.9	3.0
Florida	0.9	1.3	1.1	0.9	1.2	1.0
Georgia	1.9	2.4	2.2	1.7	2.4	2.1
Hawaii	1.4	2.5	2.3	1.7	2.5	2.3
Idaho	1.4	2.4	2.2	1.4	2.2	1.9
Illinois	1.0	1.4	1.3	0.9	1.3	1.1
Indiana	2.0	2.6	2.2	1.9	2.4	1.9
Iowa	1.6	2.5	2.3	1.4	2.3	2.1
Kansas	1.5	2.5	2.3	1.3	2.3	2.2
Kentucky	2.2	2.6	2.2	2.1	2.5	1.9
Louisiana	2.4	2.8	2.4	2.2	2.5	1.9
Maine	1.8	2.6	2.3	1.5	2.5	2.2
Maryland	1.9	2.6	2.4	1.6	2.5	2.3
Massachusetts	0.9	1.4	1.3	0.8	1.4	1.3
Michigan	0.9	1.3	1.2	0.9	1.2	1.0
Minnesota	1.3	2.6	2.5	1.3	2.5	2.3
Mississippi	2.3	2.6	2.2	1.9	2.4	2.0
Missouri	1.8	2.7	2.4	1.9	2.6	2.2
Montana	1.5	2.5	2.3	1.5	2.4	2.2
Nebraska	1.4	2.5	2.3	1.3	2.2	2.0
Nevada	1.5	2.1	1.8	1.5	2.2	1.8
New Hampshire	1.8	2.8	2.6	1.8	2.8	2.6
New Jersey	0.9	1.3	1.3	0.8	1.3	1.2
New Mexico	1.8	2.5	2.3	1.7	2.4	2.1
New York	0.7	1.0	1.0	0.7	1.0	0.9
North Carolina	1.0	1.3	1.1	0.9	1.2	1.0
North Dakota	1.6	2.4	2.2	1.5	2.4	2.2
Ohio	0.9	1.3	1.1	0.9	1.2	1.1
Oklahoma	1.9	2.5	2.2	1.8	2.4	1.9
Oregon	1.7	2.6	2.4	1.6	2.5	2.3
Pennsylvania	1.0	1.3	1.2	0.9	1.3	1.1
Rhode Island	2.2	2.9	2.7	2.3	2.8	2.4
South Carolina	1.9	2.3	1.9	1.8	2.2	1.7
South Dakota	1.5	2.2	1.9	1.5	2.1	1.8
Tennessee	1.9	2.4	2.0	1.8	2.2	1.7
Texas	1.0	1.3	1.1	1.0	1.3	1.0
Utah	1.5	2.4	2.2	1.4	2.3	2.1
Vermont	1.7	2.8	2.6	1.6	2.7	2.5
Virginia	1.7	2.2	2.1	1.5	2.2	2.0
Washington	1.4	2.4	2.3	1.4	2.4	2.2
West Virginia	2.3	2.6	1.8	2.0	2.4	1.7
Wisconsin	1.4	2.3	2.1	1.4	2.2	2.0
Wyoming	1.9	2.8	2.5	1.9	2.7	2.2

SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, March 1994.

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Table 12bx: Standard errors for Table 12b

State	Less than a high school diploma	High school diploma, but not a 4-year college degree	4-year college degree or greater
UNITED STATES	**0.2**	**0.2**	**0.2**
Alabama	1.5	1.8	1.4
Alaska	0.8	1.5	1.4
Arizona	1.2	1.7	1.5
Arkansas	1.5	1.7	1.3
California	0.5	0.7	0.6
Colorado	0.9	1.8	1.7
Connecticut	1.2	2.0	1.9
Delaware	1.3	1.9	1.6
District of Columbia	1.6	2.1	2.0
Florida	0.6	0.9	0.8
Georgia	1.3	1.7	1.5
Hawaii	1.1	1.8	1.6
Idaho	1.0	1.6	1.5
Illinois	0.7	0.9	0.9
Indiana	1.4	1.8	1.4
Iowa	1.1	1.7	1.5
Kansas	1.0	1.7	1.6
Kentucky	1.5	1.8	1.4
Louisiana	1.6	1.9	1.5
Maine	1.2	1.8	1.6
Maryland	1.3	1.8	1.7
Massachusetts	0.6	1.0	0.9
Michigan	0.6	0.9	0.8
Minnesota	0.9	1.8	1.7
Mississippi	1.5	1.8	1.5
Missouri	1.3	1.9	1.6
Montana	1.1	1.7	1.6
Nebraska	1.0	1.7	1.5
Nevada	1.1	1.5	1.3
New Hampshire	1.3	2.0	1.8
New Jersey	0.6	0.9	0.9
New Mexico	1.3	1.7	1.5
New York	0.5	0.7	0.6
North Carolina	0.7	0.9	0.7
North Dakota	1.1	1.7	1.5
Ohio	0.6	0.9	0.8
Oklahoma	1.3	1.7	1.5
Oregon	1.2	1.8	1.7
Pennsylvania	0.7	0.9	0.8
Rhode Island	1.6	2.0	1.8
South Carolina	1.3	1.6	1.3
South Dakota	1.1	1.5	1.3
Tennessee	1.3	1.6	1.3
Texas	0.7	0.9	0.8
Utah	1.0	1.7	1.5
Vermont	1.2	1.9	1.8
Virginia	1.1	1.6	1.4
Washington	1.0	1.7	1.6
West Virginia	1.5	1.8	1.3
Wisconsin	1.0	1.6	1.4
Wyoming	1.3	1.9	1.7

SOURCE: United States Department of Commerce, Bureau of the Census, Current Population Survey, March 1994.

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Table 14x: Standard errors for Table 14

State	Less than a high school diploma	High school (but not 4-year college) diploma	4-year college degree or greater	Difference between high school (but not 4-year college) graduates and non-graduates	Difference between 4-year college and high school (but not 4-year college) graduates
UNITED STATES	**0.5**	**0.2**	**0.3**	**0.5**	**0.1**
Alabama	4.1	1.9	2.5	4.5	3.1
Alaska	6.2	1.5	1.4	6.3	2.1
Arizona	4.6	1.8	2.9	4.9	3.4
Arkansas	4.1	1.9	2.5	4.5	3.2
California	1.5	0.8	0.9	1.7	1.2
Colorado	7.5	1.7	2.1	7.7	2.7
Connecticut	6.5	1.8	2.4	6.8	3.1
Delaware	5.2	1.8	2.1	5.5	2.8
District of Columbia	4.9	2.8	2.0	5.7	3.5
Florida	2.2	0.9	1.2	2.4	1.5
Georgia	4.0	1.8	2.2	4.4	2.9
Hawaii	5.7	1.8	2.3	5.9	2.9
Idaho	5.2	1.5	1.9	5.4	2.4
Illinois	2.5	1.0	1.2	2.7	1.5
Indiana	4.7	1.8	2.7	5.0	3.2
Iowa	5.5	1.5	2.3	5.7	2.8
Kansas	6.3	1.5	2.1	6.5	2.6
Kentucky	4.0	2.0	2.5	4.5	3.2
Louisiana	4.1	2.2	3.5	4.6	4.1
Maine	5.8	1.9	2.3	6.1	2.9
Maryland	5.0	1.8	2.0	5.3	2.7
Massachusetts	3.0	1.0	1.1	3.1	1.5
Michigan	2.8	1.0	1.3	2.9	1.6
Minnesota	6.7	1.6	2.0	6.9	2.6
Mississippi	3.9	1.8	2.7	4.3	3.2
Missouri	4.9	1.9	2.5	5.3	3.1
Montana	5.1	1.6	1.7	5.4	2.4
Nebraska	5.5	1.5	2.1	5.7	2.6
Nevada	4.6	1.5	2.6	4.9	3.1
New Hampshire	5.7	2.0	2.5	6.0	3.2
New Jersey	2.7	1.0	1.1	2.9	1.5
New Mexico	4.5	2.0	2.5	5.0	3.2
New York	1.9	0.8	1.0	2.1	1.3
North Carolina	2.1	0.9	1.3	2.3	1.6
North Dakota	5.5	1.5	1.7	5.7	2.3
Ohio	2.6	0.9	1.2	2.8	1.6
Oklahoma	4.5	1.9	2.7	4.9	3.3
Oregon	5.3	1.9	2.2	5.6	2.9
Pennsylvania	2.6	1.0	1.4	2.7	1.7
Rhode Island	4.5	2.2	2.0	5.0	3.0
South Carolina	3.6	1.7	2.1	3.9	2.7
South Dakota	4.7	1.4	2.2	4.9	2.6
Tennessee	3.8	1.6	2.9	4.2	3.3
Texas	2.0	0.9	1.2	2.2	1.5
Utah	6.1	1.7	2.2	6.3	2.8
Vermont	5.8	1.8	2.1	6.1	2.8
Virginia	3.8	1.6	1.8	4.1	2.4
Washington	6.1	1.7	2.1	6.4	2.7
West Virginia	3.9	2.1	3.0	4.4	3.6
Wisconsin	5.3	1.3	2.3	5.4	2.6
Wyoming	6.2	1.8	2.4	6.4	3.0

SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, March 1994.

Table 15x: Standard errors for Table 15

State	Less than a high school diploma	High school (but not 4-year college) diploma	4-year college degree or greater	Difference between high school (but not 4-year college) graduates and non-graduates	Difference between 4-year college and high school (but not 4-year college) graduates
UNITED STATES	**0.4**	**0.1**	**0.1**	**0.4**	**0.1**
Alabama	2.4	1.0	1.5	2.5	1.8
Alaska	—	1.1	1.3	—	1.7
Arizona	3.4	0.9	1.6	3.5	1.8
Arkansas	2.2	0.9	0.9	2.3	1.2
California	1.2	0.5	0.5	1.3	0.7
Colorado	—	1.2	0.6	—	1.3
Connecticut	5.5	1.2	1.2	5.6	1.7
Delaware	2.4	1.1	1.3	2.7	1.7
District of Columbia	2.9	2.4	1.1	3.7	2.6
Florida	1.3	0.6	0.6	1.4	0.8
Georgia	2.1	1.0	1.1	2.3	1.5
Hawaii	3.9	1.0	1.3	4.0	1.6
Idaho	4.3	0.9	0.6	4.4	1.1
Illinois	1.8	0.6	0.5	1.9	0.7
Indiana	3.4	1.0	0.0	3.6	1.0
Iowa	2.8	0.8	1.0	2.9	1.3
Kansas	4.9	1.1	0.7	5.0	1.3
Kentucky	2.3	1.0	0.6	2.5	1.2
Louisiana	2.6	1.1	1.2	2.8	1.6
Maine	4.2	1.3	1.4	4.4	1.9
Maryland	3.3	1.1	1.3	3.5	1.7
Massachusetts	2.0	0.6	0.7	2.1	0.9
Michigan	2.0	0.6	0.5	2.1	0.8
Minnesota	4.3	1.0	1.1	4.4	1.4
Mississippi	2.3	1.1	0.6	2.6	1.3
Missouri	2.7	1.3	1.3	3.1	1.9
Montana	2.6	1.1	1.0	2.9	1.5
Nebraska	3.8	0.8	1.0	3.9	1.3
Nevada	2.5	0.9	0.9	2.7	1.3
New Hampshire	3.4	1.0	1.4	3.6	1.7
New Jersey	2.3	0.6	0.6	2.4	0.9
New Mexico	1.7	1.1	0.8	2.0	1.3
New York	1.4	0.5	0.5	1.5	0.7
North Carolina	1.3	0.4	0.2	1.3	0.5
North Dakota	3.3	0.9	1.1	3.5	1.4
Ohio	1.9	0.5	0.6	2.0	0.8
Oklahoma	2.5	1.0	1.6	2.7	1.9
Oregon	4.2	0.9	1.1	4.3	1.4
Pennsylvania	1.7	0.5	0.7	1.8	0.9
Rhode Island	2.9	1.4	1.9	3.3	2.4
South Carolina	2.0	0.9	1.3	2.2	1.6
South Dakota	2.7	0.7	1.0	2.8	1.2
Tennessee	1.8	0.9	1.7	2.0	1.9
Texas	1.3	0.5	0.7	1.4	0.9
Utah	4.3	0.7	0.9	4.4	1.1
Vermont	4.7	1.3	0.0	4.8	1.3
Virginia	2.2	0.7	0.8	2.3	1.1
Washington	4.4	1.2	1.4	4.5	1.9
West Virginia	3.3	1.3	1.4	3.5	1.9
Wisconsin	4.2	0.9	0.6	4.3	1.1
Wyoming	3.5	0.9	1.9	3.6	2.0

— Sample size too small to permit a reliable estimate.

SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, March 1994.

Table 16x: Standard errors for Table 16

	Percent earning at least $5,000			Percent earning at least $40,000		
State	Less than a high school diploma	High school (but not 4-year college) diploma	Difference between high school (but not 4-year college) graduates and non-graduates	High school(but not 4-year college) diploma	4-year college degree or greater	Difference between 4-year college and high school (but not 4-year college) graduates
UNITED STATES	**0.6**	**0.3**	**0.7**	**0.2**	**0.5**	**0.5**
Alabama	3.9	2.1	4.5	1.2	3.6	3.8
Alaska	—	1.8	—	1.4	6.1	6.3
Arizona	4.9	2.1	5.3	1.2	4.4	4.5
Arkansas	4.1	2.2	4.7	1.1	3.4	3.6
California	1.6	0.9	1.8	0.6	1.5	1.7
Colorado	—	2.1	—	1.5	7.5	7.7
Connecticut	—	2.3	—	1.8	6.6	6.9
Delaware	5.5	2.1	5.9	1.5	5.3	5.5
District of Columbia	5.0	3.1	5.9	1.7	4.9	5.2
Florida	2.2	1.1	2.5	0.6	2.0	2.1
Georgia	4.2	2.1	4.7	1.2	4.1	4.2
Hawaii	5.8	2.0	6.2	1.5	5.5	5.7
Idaho	5.4	2.0	5.8	1.0	4.8	4.9
Illinois	2.6	1.2	2.8	0.8	2.5	2.6
Indiana	4.8	2.1	5.2	1.3	4.6	4.7
Iowa	5.8	2.1	6.1	1.0	5.2	5.3
Kansas	6.5	2.1	6.8	1.2	5.9	6.1
Kentucky	3.8	2.3	4.5	1.3	3.7	4.0
Louisiana	3.7	2.4	4.4	1.5	3.6	3.9
Maine	5.8	2.2	6.2	1.2	4.8	5.0
Maryland	4.9	2.1	5.4	1.6	5.0	5.2
Massachusetts	3.0	1.2	3.2	0.8	2.9	3.1
Michigan	2.7	1.1	2.9	0.8	2.7	2.8
Minnesota	—	2.1	—	1.4	7.0	7.1
Mississippi	3.9	2.2	4.5	1.1	3.5	3.7
Missouri	5.0	2.3	5.5	1.3	4.6	4.8
Montana	5.6	2.2	6.0	1.2	4.0	4.2
Nebraska	6.4	2.0	6.7	1.2	5.7	5.9
Nevada	4.8	1.7	5.1	1.3	4.7	4.8
New Hampshire	6.0	2.4	6.5	1.6	5.7	6.0
New Jersey	2.8	1.1	3.0	0.9	2.8	2.9
New Mexico	4.4	2.3	5.0	1.2	4.0	4.2
New York	1.9	0.9	2.1	0.6	1.9	1.9
North Carolina	2.2	1.1	2.4	0.6	2.0	2.1
North Dakota	5.6	2.1	6.0	1.0	4.4	4.6
Ohio	2.6	1.1	2.8	0.7	2.5	2.6
Oklahoma	4.5	2.2	5.0	1.2	3.9	4.1
Oregon	5.7	2.2	6.1	1.4	5.3	5.5
Pennsylvania	2.6	1.1	2.8	0.7	2.4	2.5
Rhode Island	4.7	2.5	5.3	1.5	4.5	4.8
South Carolina	3.6	1.9	4.0	1.1	3.3	3.5
South Dakota	5.0	1.9	5.4	0.9	4.0	4.1
Tennessee	3.8	2.0	4.3	1.1	3.4	3.6
Texas	2.1	1.1	2.4	0.7	2.0	2.1
Utah	6.2	2.0	6.5	1.2	5.8	5.9
Vermont	—	2.4	—	1.4	5.4	5.6
Virginia	4.0	1.8	4.4	1.3	3.9	4.1
Washington	—	2.0	—	1.4	5.9	6.1
West Virginia	3.5	2.3	4.2	1.2	3.2	3.4
Wisconsin	5.5	1.8	5.7	1.1	5.2	5.3
Wyoming	6.4	2.4	6.8	1.7	4.9	5.2

— Sample size too small to permit a reliable estimate.

SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, March 1994.

Table 17x: Standard errors for private school data in Table 17

State	Number of schools	Enrollment	Average school size
UNITED STATES	**205**	**12,875**	**195**
Alabama	79	4,724	187
Alaska	0	0	0
Arizona	0	0	0
Arkansas	30	3,995	210
California	85	1,987	184
Colorado	68	7,798	179
Connecticut	22	1,875	213
Delaware	0	0	0
District of Columbia	0	0	0
Florida	83	3,789	191
Georgia	81	3,586	174
Hawaii	0	0	0
Idaho	0	0	0
Illinois	12	794	228
Indiana	0	0	0
Iowa	30	211	174
Kansas	0	0	0
Kentucky	0	0	0
Louisiana	19	4,036	382
Maine	0	0	0
Maryland	0	0	0
Massachusetts	29	1,362	202
Michigan	0	0	0
Minnesota	0	0	0
Mississippi	30	1,564	270
Missouri	69	616	163
Montana	0	0	0
Nebraska	0	0	0
Nevada	0	0	0
New Hampshire	0	0	0
New Jersey	0	0	0
New Mexico	0	0	0
New York	59	4,776	251
North Carolina	18	1,803	180
North Dakota	0	0	0
Ohio	58	3,480	250
Oklahoma	62	3,584	148
Oregon	0	0	0
Pennsylvania	54	4,260	201
Rhode Island	0	0	0
South Carolina	21	1,819	194
South Dakota	0	0	0
Tennessee	54	2,909	178
Texas	98	7,591	174
Utah	0	0	0
Vermont	0	0	0
Virginia	55	4,584	184
Washington	53	1,858	168
West Virginia	0	0	0
Wisconsin	0	0	0
Wyoming	0	0	0

SOURCE: U.S. Department of Education, National Center for Education Statistics, *Private School Universe Survey, 1993–94*, Table 17a, and unpublished tabulations.

GLOSSARY

GLOSSARY

Advanced Placement (AP) Examinations: Annual examinations offered to give high school students the opportunity to earn college credit in various subject areas.

Associate degree: A degree granted for the successful completion of a sub-baccalaureate program of studies, usually requiring at least 2 years (or equivalent) of full-time college-level study. This includes degrees granted in a cooperative or work-study program.

Bachelor's degree: A degree granted for the successful completion of a baccalaureate program of studies, usually requiring at least 4 years (or equivalent) of full-time college-level study. This includes degrees granted in a cooperative or work-study program.

College: A postsecondary school which offers general or liberal arts education, usually leading to an associate, bachelor's, master's, doctor's, or first-professional degree. Junior colleges and community colleges are included under this terminology.

Control of institutions: A classification of institutions of elementary/secondary or higher education by whether the institution is operated by publicly elected or appointed officials (public control) or by privately elected or appointed officials and derives its major source of funds from private sources (private control).

Current expenditures: Expenditures which represent educational goods and services whose lifespan should not, in theory, exceed the current year, such as salaries of staff, educational supplies, scholarships, minor repairs and maintenance, and administration. Conventionally, minor items of equipment are treated as current expenditure, even if the corresponding physical asset lasts longer than one year. Current expenditures exclude *capital expenditures*, expenditures for assets that will be used for many consecutive years, such as buildings, major repairs, major items of equipment, and vehicles, even if the financing of such assets is reported in a single financial year.

Earnings: Annual money earnings (i.e., direct pay for work before taxes). Income from other sources, such as government aid programs, interest on capital, etc., is not taken into account. Mean earnings are calculated on the basis of data only for all people with income from work.

Educational and general expenditures (in higher education): Sum of current funds expenditures on instruction, research, public service, academic support, student services, institutional support, operation and maintenance of plant, and awards from restricted and unrestricted funds.

Educational attainment: The highest grade, year, or level of regular school attended and completed.

Elementary school: Includes all forms of education prior to high school education and after preprimary (such as kindergarten, or nursery school) education. A school is classified as elementary by state and local practice if it is composed of any span of grades not above grade 8. A preschool or kindergarten school is included in this definition only when it is an integral part of any elementary school or a regularly established school system.

Employment: Includes civilian, noninstitutionalized persons who (1) worked during any part of the survey week as paid employees; worked in their own business, profession, or farm; or worked 15 hours or more as unpaid workers in a family-owned enterprise; or (2) were not working but had jobs or businesses from which they were temporarily absent due to illness, bad weather, vacation, labor-management dispute, or personal reasons whether or not they were seeking another job.

Employment rate: The ratio of those employed (see *Employment*) to those in the labor force (see *Labor force*).

Enrollment: The total number of students registered in a given school unit at a given time, generally in the fall of a year.

Enrollment rate: The percentage of persons in a particular age range who are enrolled in school.

Enrollment reference group: The people in the age range typical for attendance in an educational level, starting at the typical starting age for that level and continuing through the typical years of duration.

Expenditures: Charges incurred, whether paid or unpaid, which are presumed to benefit the current fiscal year. For elementary/secondary schools, these include all charges for current outlays plus capital outlays and interest on school debt. For institutions of higher education, these include current outlays plus capital outlays. For government, these includes charges net of recoveries and other correcting transactions other than for retirement of debt, investment in securities, extension of credit, or as agency transaction.

Expenditures per student: Charges incurred for a particular period of time divided by a student unit of measure, such as average daily attendance or average daily membership.

Full-time/Part-time enrollment: Students are enrolled full-time, should they attend a program that is classified as such by the institution. Otherwise, they are considered part-time students. Higher education students are enrolled full-time if their total course load is equal to at least 75 percent of the normal full-time course load.

Full-time-equivalent (FTE) enrollment: For institutions of higher education, the enrollment of full-time students, plus the full-time equivalent of part-time students as reported by institutions equals the FTE. In the absence of an equivalent reported by an institution, the FTE enrollment is estimated by adding one-third of part-time enrollment to full-time enrollment.

Graduate: An individual who has received formal recognition for the successful completion of a prescribed program of studies.

Graduation: Formal recognition given an individual for the successful completion of a prescribed program of studies.

Graduation reference age: The age identified as the typical age at which students graduate from a given level of education or educational program. Used to construct graduation ratios.

Gross state product (GSP): The total of the gross expenditure on the final uses of the domestic supply of goods and services valued at a price to the purchaser minus the imports of goods and services.

GSP per capita: The GSP (gross state product) of a state divided by its total population.

Higher education: This form of education includes study beyond secondary school at an institution that offers programs terminating in an associate, bachelor's or higher degree.

Higher education institutions:

> **4-year higher education institution**: An institution legally authorized to offer and offering at least a 4-year program of college-level studies wholly or principally creditable toward a bachelor's degree.
>
> **2-year higher education institution**: An institution legally authorized to offer and offering at least a 2-year program of college-level studies which terminates in an associate degree or is principally creditable toward a bachelor's degree. Also includes about 20 institutions that have less than a 2-year program, but were designated as institutions of higher education in the Higher Education General Information Survey.

Initial source of funds: The sectors or levels of government that *generate* the funds used to finance education. The figures do not reflect subsequent transfers among levels of government or between the public and private sectors — for example, intergovernmental transfers from the Federal government to state or local governments or transfers (such as scholarships) from governments to private parties. These transfer payments are often large and important.

In-migration: The number of students from other states enrolling in a particular state, divided by the total number of enrollees in that state.

Instruction (elementary and secondary): Encompasses all activities dealing directly with the interaction between teachers and students. Teaching may be provided for students in a school classroom, in another location such as a home or hospital, and in other learning situations such as those involving co-curricular activities. Instruction may be provided through some other approved medium such as television, radio, telephone, and correspondence. Instruction expenditures include: salaries, employee benefits, purchased services, supplies, and tuition to out-of-state public schools and private schools with programs a particular school district may lack.

Instruction (higher education): Includes expenditures of the colleges, schools, departments, and other instructional divisions of higher education institutions and expenditures for departmental research and public service which are not separately budgeted. Includes expenditures for both credit and noncredit activities. Excludes expenditures for academic administration where the primary function is administration (e.g. academic deans).

Labor force: Persons employed as civilians, unemployed (but looking for work), or in the armed services during the survey week. The "civilian labor force" comprises all civilians classified as employed or unemployed.

Learning disabled: Having a disorder in one or more of the basic psychological processes involved in understanding or in using spoken or written language, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations. The term includes such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. The term does not include children who have learning problems which are primarily the result of visual, hearing or environmental, cultural, or economic disadvantage.

Migration: Geographic mobility involving a change of usual residence between states.

National Assessment of Educational Progress (NAEP): A Congressionally mandated study funded by the Office of Educational Research and Improvement, U.S. Department of Education. The overall goal of the project is to determine the nation's progress in education. Since 1969, NAEP has periodically gathered information about levels of educational achievement across the country. NAEP has surveyed the educational accomplishments of 9-, 13-, and 17-year-old students (and in recent years, grades 4, 8, and 12), and occasionally young adults, in 10 learning areas. Different learning areas were assessed annually and, as of 1980–81, biennially.

National Education Goals: The six national goals in education adopted by the President and the nation's governors in 1989. The 1994 Goals 2000 — Educate America Act, passed by the Congress, added 2 more goals, bringing the total number of goals to eight.

Net migration: The number of in-migrant students divided by the number of enrolled students in a particular state. If the calculation produces a positive number, the state has net in-migration. If the calculation produces a negative number, the state has net out-migration.

Out-migration: The number of students from a particular state enrolling in higher education institutions in other states, divided by the total number of enrollees in that particular state.

Part-time enrollment: See *Full-time/Part-time enrollment.*

Poverty: For this report people are living in poverty if they live in a household whose income (adjusted for household size) is less than 40 percent the country's median household income.

Private expenditures: Includes expenditures funded by private sources — mainly households, private non-profit institutions, and firms and businesses. Private expenditures include school fees, materials such as textbooks and teaching equipment, transport to school (if organized by the school), meals (if provided by the school), boarding fees, and expenditure by employers for initial vocational training.

Private school or institution: A school or institution which is controlled by an individual or agency other than a State, a subdivision of a State, or the Federal Government, which is usually supported primarily by other than public funds, and the operation of whose program rests with other than publicly elected or appointed officials.

Public school or institution: A school or institution controlled and operated by publicly elected or appointed officials and deriving its primary support from public funds.

Student-staff ratio: The enrollment of students at a given period of time, divided by the full-time-equivalent number of staff, including teachers and all non-instructional personnel, serving these students during the same period.

Student-teacher ratio: The enrollment of students at a given period of time, divided by the full-time-equivalent number of classroom teachers serving these students during the same period.

Secondary school: A school comprising any span of grades beginning with the next grade following an elementary or middle-school (usually 7, 8, or 9) and ending with or below grade 12. Both junior high schools and senior high schools are included.

Special education: Direct instructional activities or special learning experiences designed primarily for students identified as having exceptionalities in one or more aspects of the cognitive process or as being underachievers in relation to general level or model of their overall abilities. Such services usually are directed at students with the following conditions: (1) physically handicapped; (2) emotionally handicapped; (3) culturally different, including compensatory education; (4) mentally retarded; and (5) students with learning disabilities. Programs for the mentally gifted and talented are also included in some special education programs.

Tuition and fees: A payment or charge for instruction or compensation for services, privileges, or the use of equipment, books or other goods.

Unemployed: Civilians who had no employment but were available for work and: 1) had engaged in any specific job seeking activity within the past 4 weeks; 2) were waiting to be called back to a job from which they had been laid off; or 3) were waiting to report to a new wage or salary within 30 days.

Unemployment rate: The percentage of the labor force without work and actively seeking work yields the unemployment rate.

U.S. Service Schools: These institutions of higher education are controlled by the U.S. Department of Defense and the U.S. Department of Transportation. The ten institutions counted in the NCES surveys of higher education institutions include: the Air Force Institute of Technology, Community College of the Air Force, Naval Postgraduate School, Uniformed Services University of the Health Sciences, U.S. Air Force Academy, U.S. Army Command and General Staff College, U.S. Coast Guard Academy, U.S. Military Academy, and the U.S. Naval Academy.

University: Education leading to a 4-year undergraduate degree or graduate degree.

Vocational Education: Organized educational programs, services, and activities which are directly related to the preparation of individuals for paid or unpaid employment, or for additional preparation for a career, requiring other than a baccalaureate or advanced degree.

SOURCES:

U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-20 "School Enrollment-Social and Economic Characteristics of Students: October 1994 and 1995."

U.S. Department of Education, National Center for Education Statistics, *Combined Glossary: Terms and Definitions From the Handbook of the State Educational Records and Reports Series*, Washington, D.C.: U.S. Government Printing Office, 1974.

U.S. Department of Education, National Center for Education Statistics, *The Condition of Education 1995*, Washington, D.C.: U.S. Government Printing Office, 1995.

U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics 1995*, Washington, D.C.: U.S. Government Printing Office, 1995.

SOURCES OF DATA

SOURCES OF DATA

Bureau of the Census
U.S. Department of Commerce

Current Population Reports: Population Projections for States, by Age, Sex, Race, and Hispanic Origin: 1993 to 2020

This report projects the population of each state in a variety of demographic categories based on 1990 Census of Population counts and a "cohort-component method by which each component of population change — births, deaths, State-to-State migration flows, internal in-migration, and international out-migration — was projected separately for each birth cohort by sex, race, and Hispanic origin." Much of the report is comprised of figures and tables detailing predicted changes in regional demographics, such as population by age or Hispanic population. Population projections are compared to and calibrated with ongoing Current Population Survey estimates of population for reliability purposes.

Current Population Reports, Consumer Income: Income, Poverty, and Valuation of Noncash Benefits: 1993

This report presents data on the income and poverty status of households, families, and persons in the United States for the calendar year 1993. These data were compiled from information contained in the March 1994 CPS conducted by the Bureau of the Census. The survey consisted of approximately 60,000 households. Data on earnings of year-round, full-time workers, per capita income, income inequality, and State income data comprise the first section of the report. The second section presents poverty data cross-classified by various demographics characteristics such as age, race, Hispanic origin, and family relationship, including poverty estimates for states.

Current Population Survey

Current estimates of school enrollment, educational attainment, and social and economic characteristics of individuals are based on data collected in the Census Bureau's monthly survey of about 60,000 households, the CPS. The CPS covers 729 sample areas consisting of 1,973 counties, independent cities, and minor civil divisions throughout the 50 states and the District of Columbia. The current sample was selected from 1990 census files and is periodically updated to reflect new housing construction. Beginning with the data for March 1990, tabulations have been controlled to the 1990 census. Estimates for earlier years were controlled to earlier censuses.

The estimation procedure employed for the monthly CPS data involves inflating weighted sample results to independent estimates for the total civilian noninstitutional population by age, sex, race, and Hispanic origin. These independent estimates are derived from statistics from decennial censuses of the population: statistics on births, deaths, and immigration and emigration; and statistics on the strength of the Armed Forces. Generalized standard error tables are provided in the Current Population Reports. The data are subject to both nonsampling and sampling errors. Further information is available in the *Current Population Reports*, Series P-20.

The primary function of the monthly CPS is to collect data on labor force participation of the civilian noninstitutional population. (It excludes military personnel and inmates of institutions.) In October of each year, questions on school enrollment by grade and other school characteristics are asked about each member of the household. Data on highest degree attained (educational attainment) are derived from responses to questions included in the March CPS instrument.

Though educational attainment questions are posed in every administration of the CPS, in March of every year the sampling frame is designed to provide more robust estimates of labor force characteristics within educational attainment categories. In addition, the March survey includes some labor force questions, such as those about earnings, that are not posed in other administrations of the CPS and it oversamples Hispanic households. Biennial reports documenting educational attainment are produced by the Bureau of the Census using March CPS data. The latest report is *Current Population Reports*, Series P-20, *Educational Attainment in the United States, March 1995 and 1994*.

Statistical Abstract of the United States

First published in 1878, the *Statistical Abstract of the United States* is an annual publication containing statistics on finance, education, industry, health, and population for the United States. Current volumes also include a small section of international comparative statistics. Although they primarily present national data for the United States, each volume also contains some data aggregated at the state, regional, and metropolitan levels. Some of the data used in each publication are taken from the household survey information of the U.S. Census Bureau. Other data are provided by other divisions of the U.S. Department of Commerce and by other federal government agencies.

Bureau of Economic Analysis
U.S. Department of Commerce

Survey of Current Business

First produced in 1921, the *Survey of Current Business* is a monthly report of national economic measures. Included in the report are quarterly national income and product accounts tables, business cycle indicators, current business statistics, and summaries of the Bureau of Economic Analysis' (BEA) work pertaining to international, national, and regional economic accounts. Data for the publication are collected from the BEA and other government statistical agencies.

Center for Policy Studies

The Center is a free-standing, non-profit organization which was established in 1980 and is based in the Twin Cities (Minneapolis and St. Paul, Minnesota). The focus of the Center's work is on the design and redesign of public systems, particularly health care and public education.

Educational Testing Service

Cross-State Data Compendium for the NAEP 1994 Reading Assessment
(see entry under National Center for Education Statistics, U.S. Department of Education)

Data Compendium for the NAEP 1992 Mathematics Assessment for the Nation and the States

(see entry under National Center for Education Statistics, U.S. Department of Education)

NAEP 1992 Mathematics Report Card for the Nation and the States
(see entry under National Center for Education Statistics, U.S. Department of Education)

1994 NAEP Reading: A First Look
(see entry under National Center for Education Statistics, U.S. Department of Education)

School Report of 1995 AP Exams

Each year, the Educational Testing Service administers Advanced Placement (AP) Examinations to high school students who wish to demonstrate superior achievement in particular subject areas, including: Biology, Calculus, Chemistry, Computer Science, Economics, English Language and Literature, Foreign Languages, Government, History, and Physics. At their discretion, colleges and universities may award credit and advanced standing to those students who obtain a certain score on these examinations. These tests are voluntary and usually are taken after intense preparation through either advanced coursework or in some cases, independent study. The *School Report* is published annually and provides statistical information such as the number of students taking AP examinations, the number of students receiving acceptable scores on the examinations, and the number of schools offering AP examinations. Tables providing state-by-state comparisons across these topical areas and others are provided.

Heritage Foundation

School Choice Programs: What's Happening in the States

The current status of school choice programs, such as vouchers and interdistrict open enrollment, in each state is collected in this volume. An entry for each state provides the current situation of choice programs, including background information such as laws, court decisions, and school district policy. Also included are developments in the past year and the position of the state governor on school choice.

National Center for Education Statistics
U.S. Department of Education

Common Core of Data

The National Center for Education Statistics (NCES) uses the Common Core of Data (CCD) survey to acquire and maintain statistical data on the 50 states, the District of Columbia, and the outlying areas from the universe of state-level education agencies. Information about staff and students is collected annually at the school, LEA (local education agency or school district), and state levels. Information about revenues and expenditures is also collected at the state level. Data are collected for a particular school year (July 1 through June 30) via survey instruments sent to the states by October 15 of the subsequent school year. States have two years in which to modify the data originally submitted.

Common Core of Data Finance Survey

The source of U.S. data for the elementary and secondary education finance data in this report is "The National Public Education Financial Survey" of the CCD series. The survey is one component of the Common Core of Data (CCD) surveys conducted annually by NCES, which provide basic descriptive information regarding the numbers of students and staff and the financing of public elementary and secondary schools. In compiling these fiscal data from administrative record systems, each state education agency (SEA) obtains data from the local education agencies (LEAs) that operate public schools. Each SEA may edit or examine the individual LEA reports before computing state totals. The reporting of fiscal data a year after the school year permits state administrative agencies to obtain audited fiscal LEA data.

Digest of Education Statistics

Published annually since 1962, with the exception of the biennial editions of 1977–78, 1983–84, and 1985–86, the *Digest of Education Statistics* provides comprehensive national and state statistics for all levels of American public and private education. Using both government and private sources, with particular emphasis upon surveys and projects conducted by the National Center for Education Statistics (NCES), the publication reports on the number of education institutions, teachers, enrollments, and graduates; educational attainment; finances; government funding; and outcomes of education. A section on international comparisons was added several years ago. Background information on population trends, attitudes on education, education characteristics of the labor force, government finances, and economic trends is also presented. Some data included in the 400+ tables and 30+ figures of the *Digest* also present historical trends and projections.

Integrated Postsecondary Education Data System

The Integrated Postsecondary Education Data System (IPEDS) surveys approximately 11,000 postsecondary institutions, including universities and colleges, as well as institutions offering technical and vocational education beyond the high school level. This survey, which began in 1986, replaces the Higher Education General Information Survey (HEGIS).

IPEDS consists of eight integrated components that obtain information on where postsecondary education is available (institutions), who participates in it and completes it (students), what programs are offered and what programs are completed, and what human and financial resources are involved in the provision of institutionally-based postsecondary education. Specifically, these components include: Institutional Characteristics, including institutional activity; Fall Enrollment, including age and residence; Enrollment in Occupationally Specific Programs; Completions; Finance; Staff; Salaries of Full-Time Instructional Faculty; and Academic Libraries.

Fall Enrollment. This survey has been part of the IPEDS (or HEGIS, the predecessor to the IPEDS) series since 1966; it was redesigned in the fall of 1986 with the introduction of IPEDS. The new survey system comprises all postsecondary institutions, but also maintains comparability with earlier surveys by allowing HEGIS institutions to be tabulated separately.

The 1994 enrollment response rate was 96 percent. Classification problems, the unavailability of needed data, interpretation of definitions, the survey due date, and operational errors have traditionally been major sources of nonsampling error for this survey. Of these, it is estimated that the classification of students has been the main cause of error.

Completions. This survey has been part of HEGIS (the predecessor to the IPEDS) since its inception. The response rate for the 1993–94 survey was 97 percent. The major sources of nonsampling error for this survey were differences between the NCES program taxonomy and taxonomies used by the colleges, classification of double majors and double degrees, operational problems, and survey timing.

Institutional Characteristics. This survey provided the basis for the universe of institutions presented in the Education Directory, Colleges and Universities. The universe comprised institutions that met certain accreditation criteria and offered at least a 1-year program of college-level studies leading toward a degree. All of these institutions were certified as eligible by the U.S. Department of Education's Division of Eligibility and Agency Evaluation. Each fall, institutions listed in the previous year's Directory were asked to update a computer printout of their information.

Finance. This survey was part of the HEGIS series and has been continued under the IPEDS system. Changes were made in the financial survey instruments in fiscal years (FY) 1976, 1982, and 1987. Beginning in FY 82, Pell Grant data were collected in the categories of federal restricted grants and contracts revenues and restricted scholarships and fellowships expenditures. The introduction of IPEDS in the FY 87 survey included several important changes to the survey instrument and data processing procedures. While these changes were significant, considerable effort has been made to present only comparable information on trends in this report and to note inconsistencies.

The FY94 response rate was 95 percent. Possible sources of nonsampling error in the financial statistics include nonresponse, imputation, and misclassification.

Staff. The fall staff data presented in this publication were collected by NCES, through the IPEDS system, which collected data from postsecondary institutions, including all 2- and 4-year higher education institutions. NCES collects staff data biennially in odd numbered years in institutions of postsecondary education. The questionnaires were mailed out by NCES between October and November 1993; the respondents reported the employment statistics in their institution that covered the payroll period closest to October 1 of the survey year.

The overall response rate for the "Fall Staff" survey was 87 percent. The response rate for higher education institutions was 92 percent.

National Assessment of Educational Progress

The National Assessment of Educational Progress (NAEP) is a Congressionally mandated study funded by the Office of Educational Research and Improvement, U.S. Department of Education. The overall goal of the project is to determine the nation's progress in education. To accomplish this goal, a cross-sectional study was designed and initially implemented in 1969. Periodically, NAEP has gathered information about levels of educational achievement across the country. NAEP has surveyed the educational accomplishments of 9-,13-, and 17-year-old students (and in recent years, grades 4, 8, and 12), and occasionally young adults, in 10 learning areas. Different learning areas were assessed annually and, as of 1980–81, biennially. Most areas have been periodically reassessed in order to measure possible changes in education achievement.

In response to legislation passed by Congress in 1988, the NAEP program includes voluntary state assessments. These require state participation in testing a sample large and representative enough to allow statistical statements about the performance on the NAEP of the state's students in particular, separate from students in the rest of the country. The 1994 Trial State Assessment was comprised of state-by-state reading assessments of fourth-grade students attending public and non-public schools. Forty-four jurisdictions participated in the voluntary program. To help ensure valid state-by-state results, the 1994 Trial State Assessment Program established a number of school and student participation rate standards that jurisdictions were required to meet. Two states, Idaho and Michigan, did not meet minimum school participation guidelines for public schools; therefore, their public school results are not included in NAEP reports. Other jurisdictions failed to meet more stringent standards for participation and are included, but duly noted. Washington, D.C. withdrew from the Trial State Assessment after the data collection phase, and so no results are included for it. The sample sizes typically exceeded 2,500 students in each participating jurisdiction.

1994 NAEP Reading: A First Look

This report presents results of the 1994 National Assessment of Education Progress (NAEP) Reading Assessment, which included multiple-choice and constructed-response questions, requiring 4th-, 8th-, and 12th-grade students to write short (one or two sentences) or extended (a paragraph or more) answers. The first section of the report is dedicated to detailed explanations of the findings accentuated with appropriate figures and tables. The latter half deals with the methodology used to attain these results, and the appropriate ways to use the data, and includes a variety of data tables.(see entry under National Center for Education Statistics, U.S. Department of Education)

Cross-State Data Compendium for the NAEP 1994 Reading Assessment

This report contains the compiled data for the reading content area of the National Assessment of Educational Progress. The compendium contains hundreds of tables and charts documenting the responses of public and private 4th-, 8th-, and 12th-graders to the reading section of the NAEP. Responses of students, teachers, and school administrators to separate questionnaires about home background, the school environment, classroom and home study practices, and more are also documented in this volume. The NAEP Reading framework, developed by the National Assessment Governing Board through a national consensus process, considers students' performance in situations that involve reading different kinds of materials for different purposes. The framework was designed to measure three global purposes- reading for literary experience, reading to gain information, and reading to perform a task. At grade 4, reading to perform a task was not assessed.

Data Compendium for the NAEP 1992 Mathematics Assessment of the Nation and the States

This report represents the compiled data for one content area (mathematics) of the *National Assessment of Educational Progress*. The compendium contains hundreds of tables and charts documenting the responses of public and private school 4th, 8th, and 12th graders to the mathematics section of the NAEP. The 1992 assessment included nearly 26,000 students attending approximately 1,500 schools across the states. Although the objectives framework underlying the assessments was developed by the Council of Chief State School Officers, participation and review were provided by educators, policymakers, practitioners, and citizens at large. The mathematics objectives were designed as a matrix comprising five broad content areas and three levels of mathematical ability. The content areas are: numbers and operations; measurement; geometry; data analysis, statistics and probability; and algebra and functions. The ability levels are: conceptual understanding; procedural knowledge; and problem solving. Student responses are broken down by geographical region, state, gender, race, and family background. Descriptive background data about classrooms. schools, and student home environments are also provided by students and teachers.

NAEP 1992 Mathematics Report Card for the Nation and the States

This extensive report contains tables and narrative descriptions outlining student performance results on the 1992 National Assessment of Educational Progress (NAEP) mathematics assessment, the history of NAEP, and how the assessment was conducted. Overall performance results of students are presented, broken down by geographic region, demographic subpopulation (including race/ethnicity and gender), grade level (4, 8, or 12), and achievement level. Parallel break-downs are presented for each of the five NAEP mathematics content areas (numbers and operations; measurement; geometry; data analysis, statistics, and probability; and algebra). The appendices include information about the contextual background of NAEP student participants and a detailed procedural overview of the assessment. (For more information about the 1992 NAEP Math Assessment, see entry for *Data Compendium for the NAEP 1992 Mathematics Assessment of the Nation and the States.*)

Public Libraries in the United States: 1992

This report summarizes information about public libraries in state fiscal calendar year 1992 collected through the fifth Public Libraries Survey. The survey is conducted annually by the National Center for Education Statistics through the Federal-State Cooperative System (FSCS) for Public Library Data. FSCS is a cooperative system through which states submit individual public library data to NCES on a voluntary basis. For public libraries, this publication includes tabular information about staffing; operating income and expenditures; type of governance; type of administrative structure; size of collection; and service measures such as reference transactions, public service hours, interlibrary loans, circulation, and library visits.

State Comparisons of Education Statistics: 1969–70 to 1993–94

Published in 1995, this report contains information on elementary and secondary schools and institutions of higher education aggregated at a state level. A wide array of statistical data ranging from enrollments and enrollment ratios to teacher salaries and institutional finances is presented. The report was designed to provide convenient access to state level statistics, without consulting numerous volumes and sources. The time series data contain NCES's most frequently requested state level statistics. The analytical tables draw on information available in the *Digest of Education Statistics, 1994*, as well as on newer data recently released and other material specially arranged for this volume.

Office of Nonpublic Education
U.S. Department of Education

The Regulation of Private Schools in America: A State-by-State Analysis

This publication is the result of an extensive review, analysis, and summary of statutes, case law, and regulations affecting private schools in such areas as: record keeping and reports, licensing and accreditation, health and safety, curriculum, and public funding for private education. The summary of each state's regulations was submitted to the appropriate state department of education and private school leaders for their consideration.. As much as possible, the terms adopted by the states were used to retain the distinctive characteristics of the provisions. Following the state summaries are comparison charts presenting information on state oversight of public schools, state-mandated educational requirements, and public assistance to private schools and private school children.

Office of Special Education and Rehabilitative Services
U.S. Department of Education

Annual Report to Congress on the Implementation of the Education of the Handicapped Act

The Education of the Handicapped Act (EHA) requires the Secretary of Education to transmit to Congress annually a report describing the progress in serving the nation's handicapped children. The annual report contains information on such children served by the public schools under the provisions of Part B of the EHA and on children served in state-operated programs (SOP) for the handicapped under Chapter I of the Education Consolidation and Improvement Act (ECIA). Statistics on children receiving special education and related services in various settings and on school personnel providing such services are reported in an annual submission of data to the Office of Special Education and Rehabilitative Services (OSERS) by the 50 states, the District of Columbia, and the outlying areas. The child count information is based on the number of handicapped children receiving special education and related services on December 1 of each year for EHA and October 1 for Chapter I of ECIA/SOP.

Since each participant in programs for the handicapped is reported to OSERS, the data are not subject to sampling error. However, nonsampling error can occur from a variety of sources. Some states follow a noncategorical approach to the delivery of special education services but produce counts by handicapping condition only because EHA-B requires it. In those states that do categorize their handicapped students, definitions and labeling practices vary. In each case, even though states must use the federal definitions of the handicapping categories for reporting purposes, there is no way to judge the accuracy of these states' relabeling of their students for the federal count. Some states also have reported combined counts for some of the smaller categories of handicap.

These variations in labeling practices may help explain why there have been inconsistencies both year to year within a given state and from state to state in the ways in which students with more than one handicapping condition have been categorized. However, federal and state efforts to ensure that children are being classified and reported appropriately, and efforts to achieve greater consistency in classification and reporting among states help minimize these variations.

United States Department of Commerce
(See earlier entry under **Bureau of the Census**)
(See earlier entry under **Bureau of Economic Analysis**)

United States Department of Education
(See earlier entry under **National Center for Education Statistics**)
(See earlier entry under **Office for Civil Rights**)

(See earlier entry under **Office for Special Education and Rehabilitative Services**)
(See earlier entry under **Office of Nonpublic Education**)

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NATIONAL CENTER FOR EDUCATION STATISTICS

ERRATA

State Indicators in Education, 1997

All the indicator numbers mentioned in the ***Introduction and Overview*** (pp. 3-19) of ***State Indicators in Education, 1997*** are old, temporary, and now incorrect numbers, legacies of numbering conventions in the earlier drafts of the report. The correspondence between the indicators' correct numbers and the old numbers is provided on page 2, with the correct numbers listed on the left and the old, now incorrect numbers listed on the right. Indicator numbers in all other sections of the report are correct.

October 28, 1997

U.S. Department of Education
Office of Educational Research and Improvement **NCES 97-376e**

Background	**Old, temporary number**
Indicator 1: Population and area	Ap1
Indicator 2: Wealth and income	Ap2
Indicator 3: Minority population	Ap3
Access, Participation, and Progress	
Indicator 4: School choice	H5
Indicator 5: Entry ratio to higher education	A10A
Indicator 6: Migration of new high school graduates entering higher education	A10B
Indicator 7: Average tuition in higher education	A4
Achievement, Attainment, and Curriculum	
Indicator 8: Reading achievement in 4th grade	B11
Indicator 9: Mathematics achievement in 8th grade	B12
Indicator 10: Math achievement in 4th grade and difference between 4th and 8th	B13
Indicator 11: Advanced Placement programs and exams	B3
Indicator 12: Educational attainment of population	B1
Economic and Other Outcomes of Education	
Indicator 13: Higher education completion	C1
Indicator 14: Labor force participation	C4
Indicator 15: Employment and education	C2
Indicator 16: Education and earnings	C3
Size, Growth, and Participation In Educational Institutions	
Indicator 17: Elementary and secondary school size	D2
Indicator 18: Number and average size of higher education institutions	D3
Indicator 19: Enrollment in 2-year higher education institutions	A2
Indicator 20: Enrollment in 4-year higher education institutions	A3
Climate, Classrooms, and Diversity in Educational Institutions	
Indicator 21: Ethnic composition of public elementary-secondary schools	E1
Indicator 22: Federal programs for aid to the disadvantaged	E2
Indicator 23: Special education programs	E3
Indicator 24: Student use of technology	B6
Indicator 25: Instructional strategies in mathematics courses	B4
Indicator 26: Availability and use of public library resources	F17
Human and Financial Resources of Education Institutions	
Indicator 27: Staffing patterns in public elementary and secondary schools	F1
Indicator 28: Faculty and staff employed at 2-year higher education institutions	F4A
Indicator 29: Faculty and staff employed at 4-year higher education institutions	F4B
Indicator 30: Higher education faculty salaries	F10
Indicator 31: Current expenditure in public elementary and secondary schools	F11C
Indicator 32: Higher education expenditures	F11A
Indicator 33: Components of higher education expenditures	F11B
Indicator 34: Sources of funds for public elementary and secondary education	F13

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